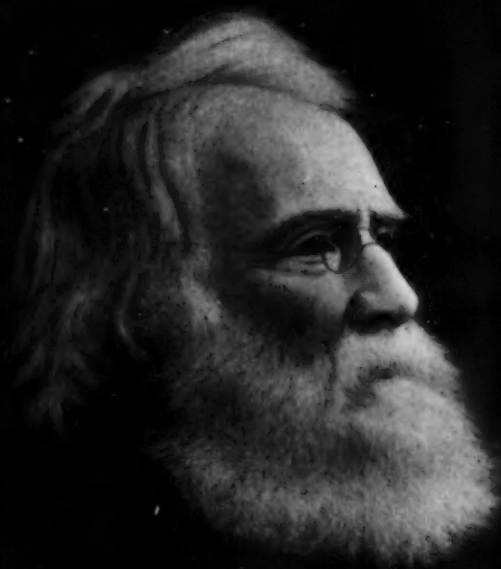


Canadian Geographical Journal

AUGUST
1936

VOL. XIII
No. 4



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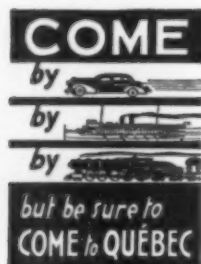
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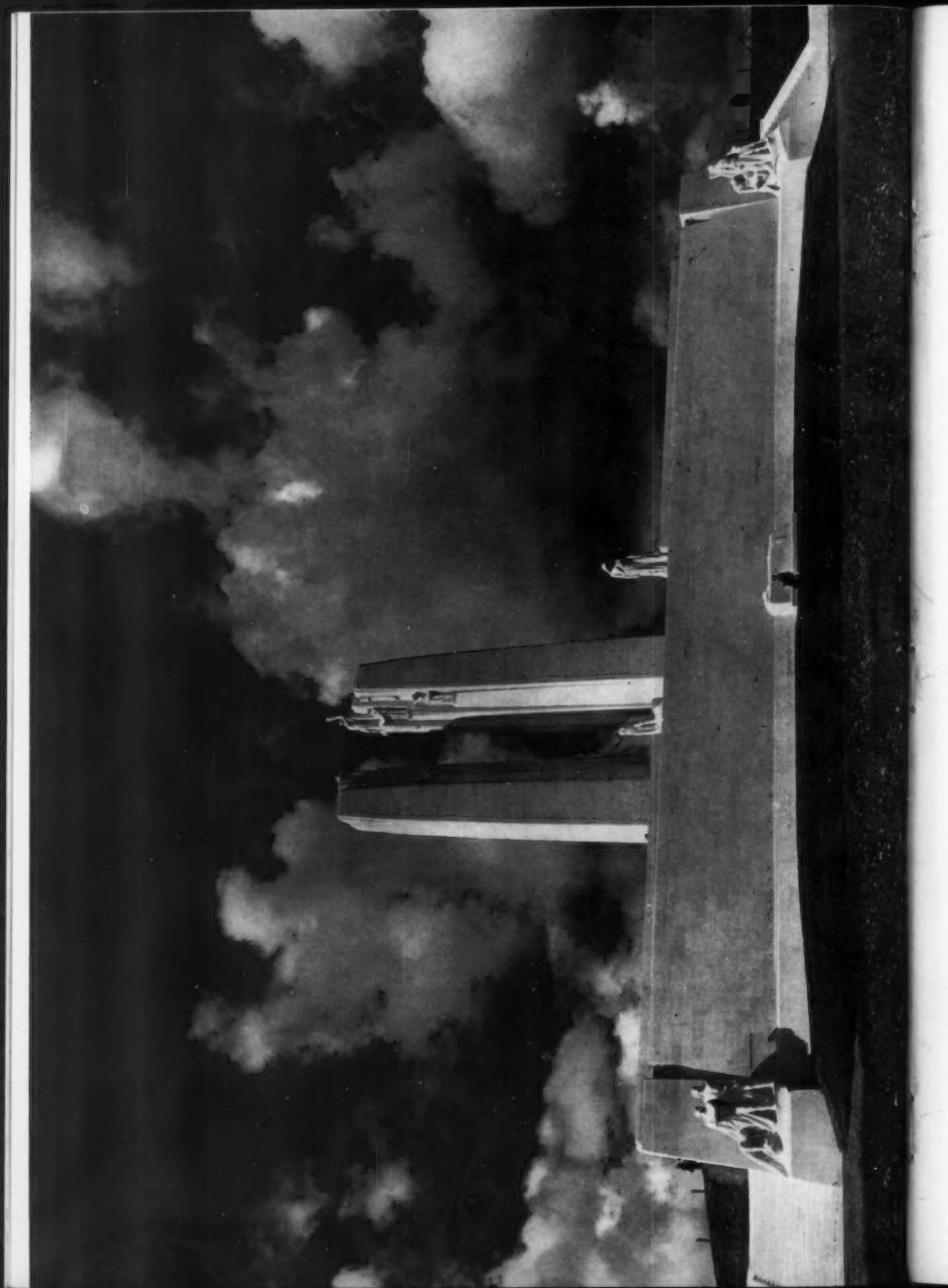


The Society's ambition is to make itself a real force in advancing geographical knowledge, and in disseminating information on the geography, resources, and peoples of Canada. In short, its aim is to make Canada better known to Canadians and to the rest of the world.

As one of its major activities in carrying out its purpose, the Society publishes a monthly magazine, *Canadian Geographical Journal*, which is devoted to every phase of geography — historical, physical, and economic — first of Canada, then of the British Empire and of the other parts of the world in which Canada has special interest. It is the intention to publish articles in this magazine that will be popular in character, easily read, well illustrated and educational to the young as well as informative to the adult.

The *Canadian Geographical Journal* will be sent to each Member of the Society in good standing. Membership in the Society is open to anyone interested in geographical matters. The annual fee for membership is three dollars.

The Society has no political or other sectional associations, and is responsible only to its membership. All money received are to be used in producing the *Canadian Geographical Journal* and in carrying on such other activities for the advancement of geographical knowledge as the funds of the Society may permit.



CANADIAN GEOGRAPHICAL JOURNAL

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Editor

Gordon M. Dallyn

This magazine is dedicated to the interpretation, in authentic and popular form, with extensive illustration, of geography in its widest sense, first of Canada, then of the rest of the British Commonwealth, and other parts of the world in which Canada has special interest.

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The British standard of spelling is adopted substantially as used by the Dominion Government and taught in most Canadian schools, the precise authority being the Oxford Dictionary as edited in 1929.

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Vimy 1917 . . . 1936

. . .

So high it soars it can be seen a countryside away -- not dominatingly, not aggressively, but as a gentle mark of the chivalry that turned barrenness into lush green grass again and overgrew the marks of war with harvests and the evidence of peace.

For this it stands, and for the memory of those from whom the chivalry was drawn. Around its ramparts, below the vast twin pylons which stand for the armies of Canada and of France, are engraved the names of nigh twelve thousand men of the Dominion who have no known resting place.

Ten years have been devoted to the creation of this memorial to their life and death, years of sustained inspiration, slowly fashioned in rare stone. There are those who dwell rather on the superficialities of an architectural feat, who recite prosaic facts of height and weight and width.

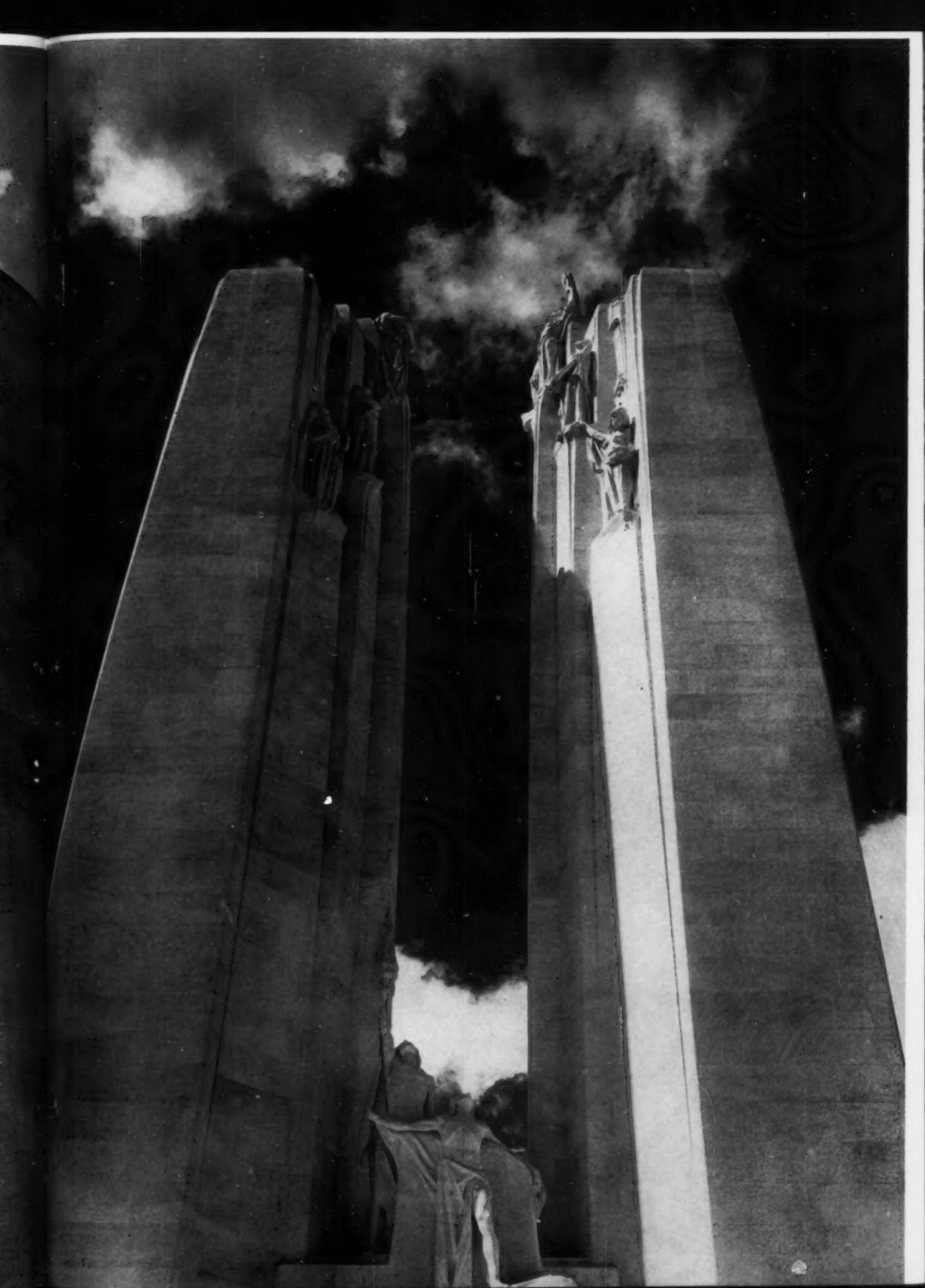
Impressive these may be; impressive indeed they are when sublimity and simplicity are their ultimate achievement. But greater still the symbolism. Here indeed is the spirit of Canada, her aspirations, her courage, her devotion. These figures, grouped above and between the pylons, stand for peace, justice, truth, knowledge and honour. A torch is flung by Sacrifice to the generation yet to come. Apart, a group breaks the sword: another tells of the sorrow of humanity for the helpless, while tragically, in the awful loneliness of unspeakable grief, Canada mourns above the tomb of her dead, their fair promise gloriously unfulfilled.

And at night the memorial is bathed in gentle light -- not stark, not garish, but in the fashion of comforting assurance to those who pass that all is well.

London, England.

James Spence.







The advent of the aeroplane, among other modern inventions, has been of great assistance in the work of the Survey. It is used for transportation to and from the field work, for dropping supplies to working parties, for making quick exploration trips, and in many other ways. Plane of the Royal Canadian Air Force with members of crew and of a Geological Survey party at Bermon Lake, British Columbia.

CANADA'S GEOLOGICAL SURVEY

by RALPH PURSER

IN front of the National Museum of Canada at Ottawa stands a large boulder of gneiss on which a bronze plaque bears a likeness and the inscription, "Sir William Logan, Kt., LL.D., F.R.S., the father of Canadian geology, founder and first director of the Geological Survey of Canada, 1842-1869." Thus is the passerby, outside the offices of the Geological Survey of Canada, reminded of its early days and its founder. The life and work of this first director of the Survey well deserves the recognition which the erection of this plaque by a world organization of geologists accorded to him. Endowed with a passion for science and with a singleness of purpose that could not be daunted by the limited facilities at his disposal he laid faithfully and well the foundations of what has become one of the foremost institutions of its kind in the world.

Founded in 1842, the Geological Survey of Canada is only seven years younger than that of Great Britain. In the New World the only similar organizations which are older are the state geological surveys of New York, Pennsylvania, Massachusetts, and Michigan which were inaugurated in the years from 1833 to 1836.

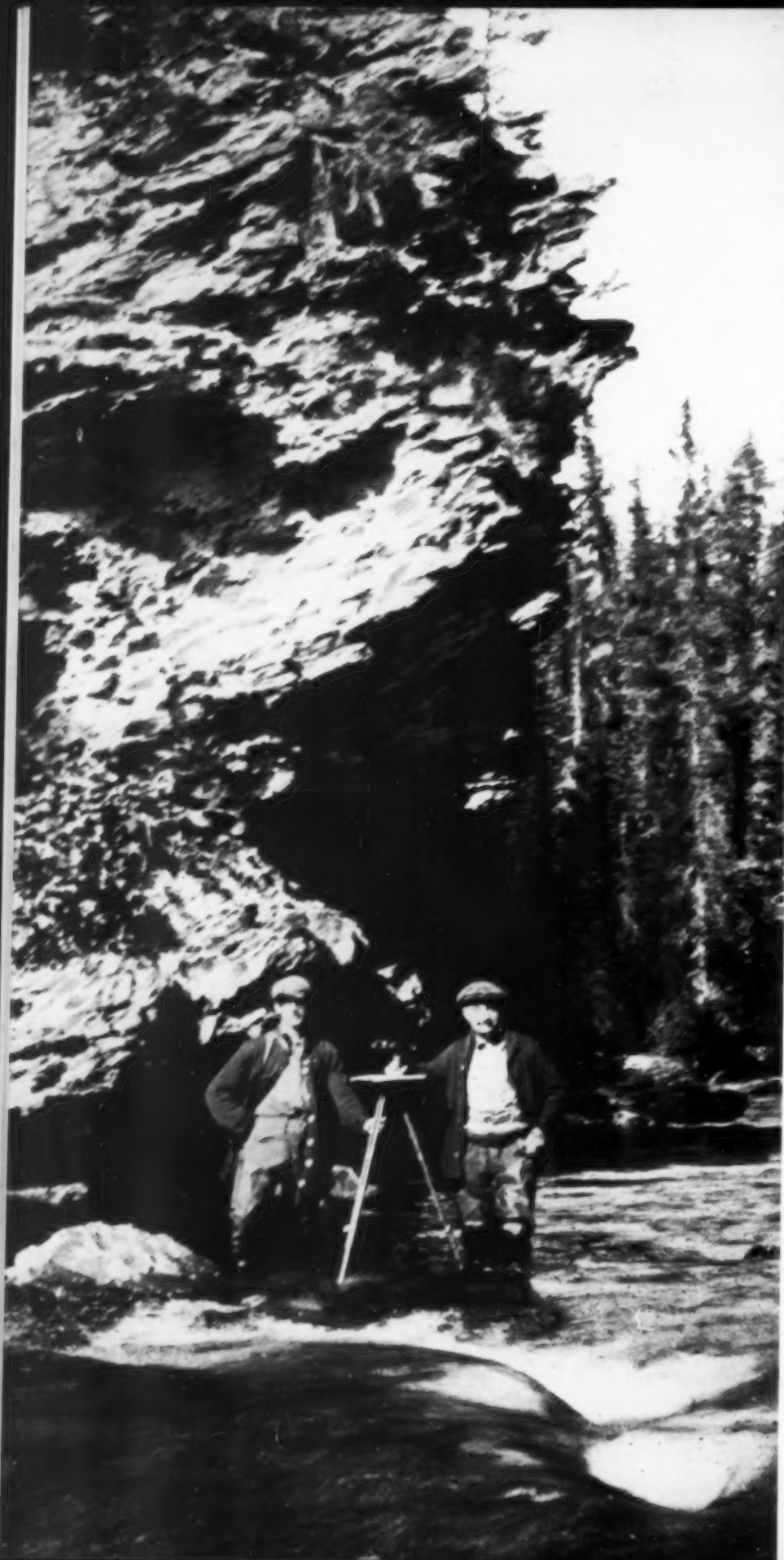
It was a time of early beginnings. The first railway had been built only six years before, Queen's University was being established at Kingston, and King's College, the forerunner of the University of Toronto, was to open the following year. The seat of government was at Kingston but two years later it was moved to Montreal, and still later to Toronto. Bytown, a little village of the backwoods, was quite unconscious of the destiny that was to be hers as Canada's capital a few decades later. Money was hard to get and the efforts of the people were mainly taken up with the problems of pioneering,—clearing land, building roads, and wrestling a living from the country.

With scanty sums voted periodically by Parliament, Logan carried on his work unceasingly. His first investigation was the geology of Gaspé peninsula in order to determine whether it contained workable deposits of coal. His first museum, office and laboratory was in the "upper chamber"

of a warehouse in Montreal. Slowly as he was able to demonstrate the practical value of his work he was enabled to collect a small staff. His first assistant was Alexander Murray who later became the first director of the Geological Survey of Newfoundland. The skill and the industry with which these men unravelled the complex geology of those portions of Lower and Upper Canada which they visited arouses the admiration of present day geologists familiar with the problems which their predecessors encountered.

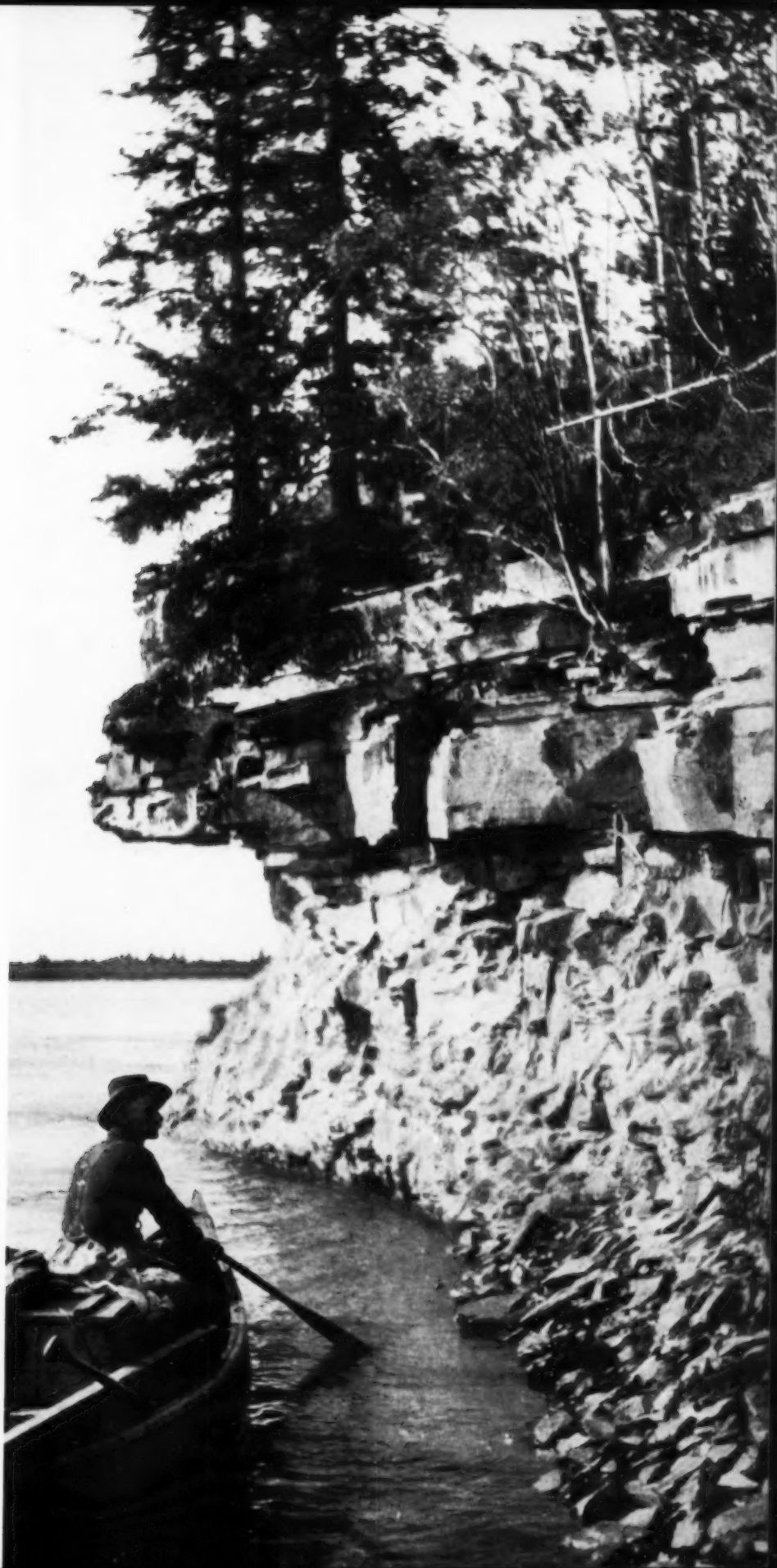
The union of the various provinces by the British North America Act into the Dominion of Canada greatly enlarged the activities of the Survey and in 1869 Logan, feeling the new responsibilities should be assumed by a younger man, retired. For the remaining six years of his life, however, he continued to devote himself to his favourite studies. The plaque in front of the Museum at Ottawa, a similar one at Percé in the province of Québec, marking the place where he commenced his field studies, and his portraits in the Museum and in the homes of the Canadian Institution of Mining and Metallurgy at London, perpetuate his memory. "But more enduring memorials than these", to quote from a pamphlet prepared in 1929, by Dr. W. H. Collins, Director of the Geological Survey, "and more eloquent of the character and work of the man, are his maps and reports, and the reputation as a scientist and administrator which, with the passing of time, has grown into a powerful Survey tradition."

In 1877, ten years after the passage of the British North America Act, the Survey was recognized by Act of Parliament as a permanent government institution. Meanwhile there had commenced a period of expansion that took the members of the organization far afield. The vast expanses of territory that had to be covered, the ever-present need for economy in the conduct of the work, and the difficulties of transportation and communication, called forth every effort on the part of the field officers. They had to be men of many parts, to be able to act not only as geologists and as surveyors but also to report intel-



An unusual plane-table set up. Topographers mapping the course of the upper Horsefly river, British Columbia, are forced to set up their plane-table beneath the overhanging rocks in this swiftly flowing stream. Topographic maps are required, upon which to present the geological information.

Geological structures en route to the Mackenzie river. Basal beds of lime stone rock on the east side of an island in Slave river, Northwest Territories.





Geological Survey field party with pack train in the Alberta foothills north of the Bow River.

lently on the agricultural possibilities, the timber, the flora and fauna, the water powers, and in fact everything that related to the future possibilities of the region which they were exploring. First attention was naturally devoted to those regions in and adjacent to settlement that were insistently demanding investigation. More remote regions were not neglected, however, and parties were detailed to out-of-the-way places such as the mountain fastnesses of interior British Columbia, to the so-called "barren lands" west of Hudson Bay, to the Yukon, and to the Arctic coast.

The development of the country, the expansion of business interests, and the growth of the mining industry itself, with which its work is so intimately associated, had its inevitable result upon the Survey. Expansion of interests had to be provided for through expansion of organization. From time to time divisions were formed to take care of certain specialized features of the work. Allied branches were also created to relieve the Survey of some of the manifold responsibilities it had undertaken. The various steps leading up to the present arrangement, wherein the Geological Survey is a major branch of the Dominion Department of Mines, need not be detailed here. They are admirably set forth in the bulletin to which reference has already been made. In a general way, however, it may be said that to-day the Geological Survey is concerned chiefly with the study and investigation of the geological structures and mineralogical resources in Canada and the presentation of the information so obtained in map and report form. The entire work is carried on in harmony with the various provincial organizations that also deal with mining or geology. Allied with this work and entering closely into it are such activities as the study of palaeontology, archaeology, anthropology, natural history, and others. Material to illustrate these various branches of science has been collected ever since the survey commenced operations. This has resulted in the National Museum which, although formally recognized as a separate organization in 1927, is closely associated with the Survey.

One of the important activities is the field and office work necessary for the provision of adequate maps upon which the geological and other data may be properly presented. In carrying out geological investigations the Survey quite

frequently is handicapped by the lack of suitable topographical maps upon which to present the information obtained. In order to provide these maps a well-equipped topographical division is maintained. This work is carried on in close co-operation with other official mapping organizations of the government.

As has already been intimated, the Survey has been responsible for a great deal of exploration in Canada. In the earlier years, particularly, its field officers were the first to bring back to civilization authentic reports of what existed beyond the bounds of regular settlement. Even before the rush of the Klondike gold seekers in 1898, geological parties had conducted their investigations on both the Yukon and the Mackenzie sides of the mountains. Others, during the past half century, travelled through various portions of the Northwest Territories. The Canadian Arctic Expedition of 1913-1918 systematically undertook geological and allied investigations and brought back a great deal of valuable data that has subsequently been published in report form. Later investigations throughout various parts of the northern areas have followed as a matter of course. The advent of the aeroplane and the radio, and the use of the aerial photograph for the recording and study of surface data has been of great assistance in the work of the Survey in more recent years.

With the growth of the mineral industry, particularly during the past generation, the Survey has had to engage herself more and more intensively in the investigation of mineral resources. By delimiting favorable areas and by investigating the modes of occurrence of mineral deposits, intelligent direction is given to further prospecting and mining—a matter of inestimable value to the industry. To-day, from the point of view of the man on the street, this may be accepted as the most important work of the survey.

The mineral resources of Canada have produced in the past half century six billion dollars of new wealth, an enormous sum and one which is not commonly realized by the ordinary citizen. The steady flow of wealth that comes from below ground has done more to help this country than is ordinarily appreciated. During the past half-dozen years in particular, it has played a tremendous part in helping to keep things moving. Without



One of the many difficulties of ground transportation—negotiating a marshy portage.

Man packing. Ready to start on the trail.





*Clearing the way for canoe passage, in a northern stream.
Releading scow after running rapids near Fort Vermilion, Peace River—before
the aeroplane revolutionized transportation.*





A lone prospector

her mineral wealth to bolster up revenues in other fields that had fallen close to the vanishing point, Canada would have been in a very sorry plight.

It is not surprising, therefore, that recent years have seen a great increase in prospecting. The metal particularly sought is gold whose present price of thirty-five dollars an ounce permits the working of deposits which at the old valuation were too low grade or too far away from transportation lines to be profitably mined. Far and wide the gold seekers have gone forth re-examining old deposits and searching for new ones and everywhere they go there is a continual demand for geological maps and reports. In 1935 the Geological Survey was enabled to meet this demand in a way which it had never been possible for it to do at any previous time in its history. In that year a special appropriation of one million dollars was voted by the federal government for Geological Survey work. As a result areas long marked for investigations were examined and parties were sent into many new fields.

The results of this special programme of work are now being completed and issued. Those that have already appeared indicate many thousands of square miles of favorable country much of which has as yet received little or no attention from prospectors. In addition to delimiting areas in which gold and other metals might be expected to occur, work was done

in other regions investigating oil and gas structures and occurrences of non-metallic minerals. Parties were placed right across the Dominion from Nova Scotia to British Columbia and far north in the Yukon and the Territories. A special problem investigated was the scarcity of water for domestic and agricultural use in the southern prairie region of western Canada. Upon its solution depends the course of future development of this whole area.

As this is being written plans are under way for another intensive field season for 1936. The federal authorities apparently feel that they are on the right track in giving intelligent direction in the search for gold and other minerals. As the Honourable T. A. Crerar, Minister of Mines, said in a recent radio address: "Every increase made in the production of our mineral wealth assists in the solution of our railway and employment problems and will do much to bring back to this country the prosperity we are all looking for. I have an abiding faith in the future of Canada and think Canadians are sensible and capable of forming means to develop the immense storehouse of natural mineral wealth we possess." Great, therefore, as has been the service which the Geological Survey has rendered to Canada in the past, it would seem that the future holds for it even still greater spheres of usefulness.

Photographs by courtesy Department of Mines, Geological Survey, Ottawa.



Receiving Time signals from England, with portable radio receiving set.



Loading a pack horse preparatory to moving camp. "Throwing the diamond hitch" is just one of the things that the geologist must know how to do in the western foothills.

Driving a tunnel on a silver vein in Northern Ontario.

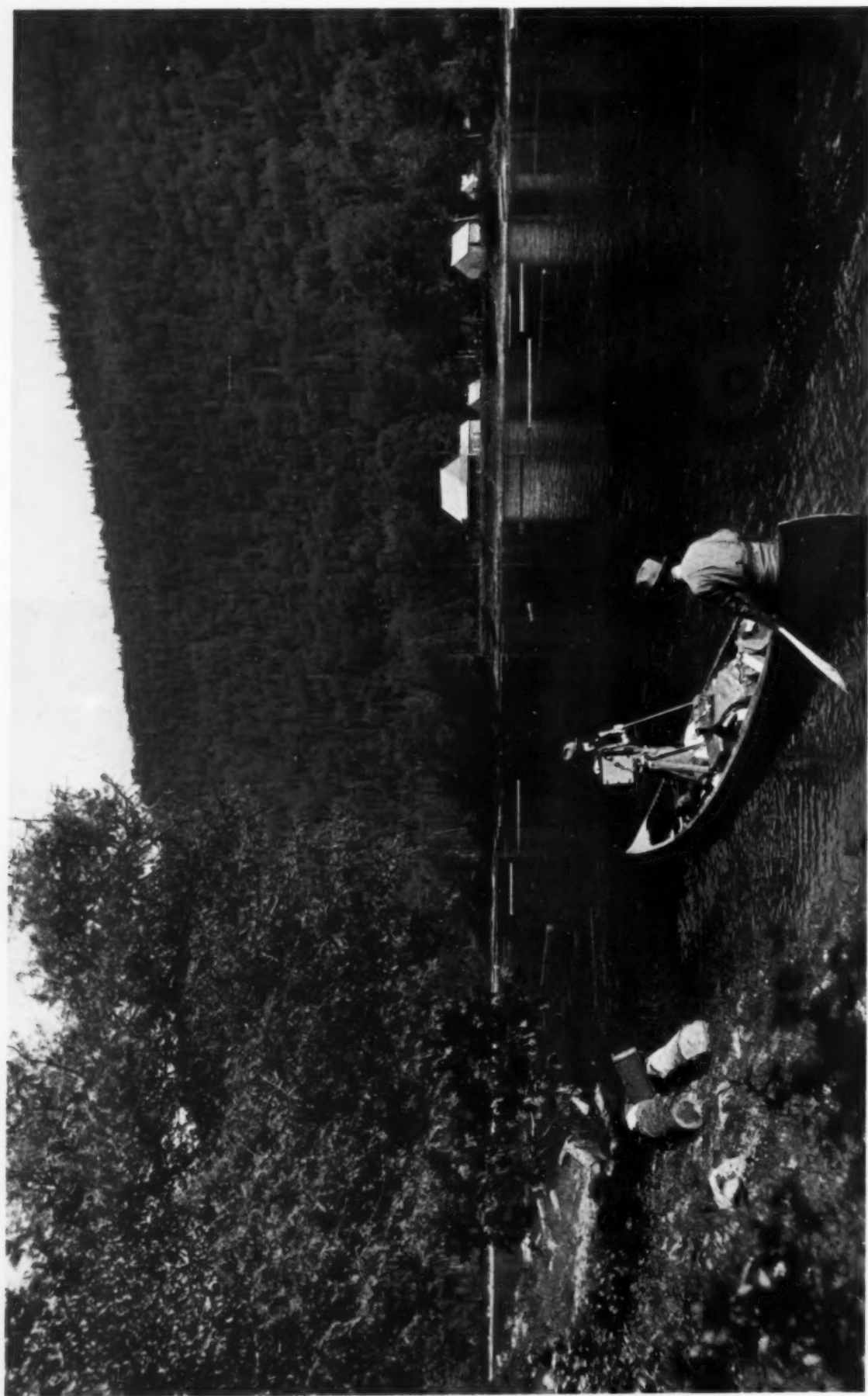




Geologists examining contorted cherty limestone containing dikelets of basalt that have taken part in the deformation. At Steeprock Lake in Ontario.

A silver vein on a mining prospect in Northern Ontario.





Typical scenery on a Canadian Salmon River.

THE ATLANTIC SALMON OF CANADA

by J. J. COWIE

THE Atlantic salmon is found on the coast of the North American Continent from the north eastern States of the United States to Newfoundland and Labrador. It is also found on the coast of the European Continent from Spain to Norway, and in Iceland. There is little or no difference between the fish of the American and European sides of the Atlantic Ocean.

The Atlantic salmon is of the genus *Salmo* and of the species *Salar*. In other words it is scientifically known as *Salmo salar*. It is said that when the Romans first landed in Britain they saw salmon jumping in the Thames, which at that time was a great salmon river. They thus gave the fish the name of *Salmo* which means "the leaper."

The Atlantic salmon is a beautiful fish both in colour and shape. It is also rich and delicious in flavour and is much prized as a food fish. It grows to a large size and has been known to reach eighty pounds. Fish of twenty pounds are quite common.

The Atlantic salmon provides an important commercial fishery in Eastern Canada and is the means of drawing numerous sportsmen to the various well known salmon rivers during the open fishing season.

Salmon is found to be more or less plentiful in nearly all the rivers in Eastern Canada beginning with the St. Croix, which divides the Province of New Brunswick and the State of Maine, round the shores of the Bay of Fundy, along the west and south shore of Nova Scotia, round Cape Breton Island and along the south shore of the Gulf of St. Lawrence, including the Gaspé Peninsula, and down the north shore of the Gulf to the Labrador Boundary.

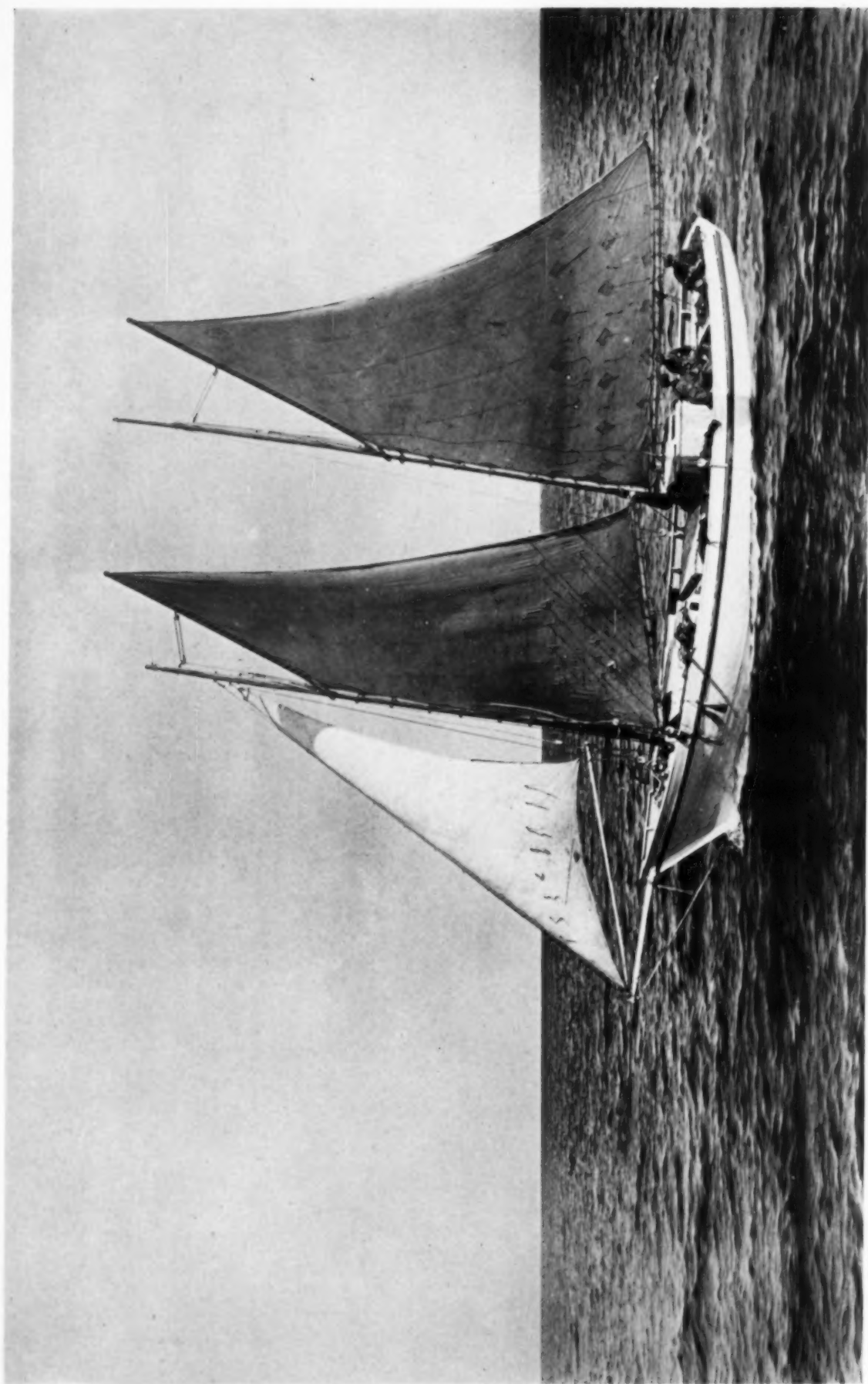
The yearly average catch of this fine fish for the last five years in the whole of Eastern Canada was 4,848,500 pounds. Fifty-two per cent. was caught in the Province of New Brunswick, twenty-nine per cent. in the Province of Quebec and nineteen per cent. in the Province of Nova Scotia.

The Atlantic salmon must not be confused with the salmon of the Pacific Coast. The latter are of an entirely different genus. These are known as *Oncorhynchus* with several species such as Nerka, Kisutch, Gorbusha and Keta, in other words, Sockeye, Coho, Pink and Chum salmon respectively. The Pacific salmon appears in very much greater numbers than the Atlantic salmon. So much so that seventy-five million pounds are packed in cans in a year.

There is a rather striking difference too in the habits or life history of the Atlantic salmon and the Pacific salmon. The Atlantic salmon comes in from the sea to a river, seeks the spawning beds at its head, deposits its spawn and afterwards returns to the sea and then to the river and repeats the spawning operation. The Pacific salmon on the other hand comes in from the sea, also seeks the spawning beds at the head of a river, deposits its spawn and dies in the operation.

The Atlantic salmon is hatched or born at the head of a river where there is suitable gravel shallows. It spends part of its life in the sea, but returns usually to the river of its birth annually for the purpose of spawning or reproducing its kind.

When it is impelled by nature to seek its natal river, and as the spawning time draws near its brilliant hues give place to general dullness and even to blackness. When the female fish, carrying approximately one thousand eggs for every pound of its weight, reaches a suitable spawning bed, it is attended by a male fish. Sometimes there is more than one male in attendance which usually precipitates a conflict. The female fish makes a furrow in the gravel with its tail in which she deposits the eggs. The gravel raised up by the motion of the tail gathers in a little heap at the end of the furrow and the eggs, through the action of the water, become lodged in the heap of gravel. The male fish then pours the life-giving milt over the eggs. When spawning has been



Type of boat used for driftnet fishing for salmon in the Gulf of St. Lawrence off the Miramichi river.

completed the fish soon afterwards descend to the sea again, but meantime, and while they linger in the river, they are known as "Foul fish," "Spent fish" or "Kelts" and are not fit for food.

The eggs deposited in the spawning beds are exposed to many destructive agencies. They may be devoured by trout and other fish as well as ducks and other water fowl. Great destruction of eggs sometimes occurs by floods sweeping them away or smothering them by depositions of gravel and mud. Consequently, the proportion of eggs hatched to the number deposited is quite small.

In a short time the egg, if it has been properly fertilized, shows eyes which appear as small specks. The young fish coiled up in the egg, after from ninety to one hundred and twenty days according to climatic conditions and the temperature of the water, breaks free from the egg. The tiny fish is provided with a small-bag under the belly which contains food from the egg sufficient for its nourishment for five or six weeks. After that time it becomes a well formed little fish about an inch long and swims about seeking its own food. They are first known as alevins then as parr. As such they remain in fresh water for a year and sometimes two or until they reach what is known as the smolt stage. A parr does not go down to the sea because it would die in salt water. When it becomes a smolt, however, of about six inches in length, it takes on a silver coating and instinctively seeks the sea. In the sea the smolt grows very quickly. After two months it has been known to return to the river as a grilse weighing several pounds. Grilse are simply young salmon that return to fresh water for the first time to spawn. When it again descends to the sea, however, it takes on the character and appearance of a perfectly matured salmon. The salmon do not grow much in fresh water. The increase in size and weight in the sea is amazing. It is on record that a Kelt weighing ten pounds, caught in a river on its way to the sea and which was marked and released, after five weeks in the sea was again caught when it weighed twenty pounds.

When salmon approach the coast on their way to rivers for spawning and when they have reached the rivers they are captured by nets for commercial purposes and by anglers with rod and line for sport.

The nets used in the commercial fishery are of two kinds, fixed nets and drift nets. The fixed nets usually consist of a "leader" or wall of netting running out from the shore which directs or guides the salmon to a trap at the outer end of the wall of netting. Drift nets on the other hand consist of a net which is run out into the water from a boat usually at night time and the boat and net drift with the tide.

Drift net fishing is carried on in the Bay of Fundy in the vicinity of the St. John River, also in the Gulf of St. Lawrence off the mouth of the Miramichi River.

There is almost continual conflict between the commercial net fishermen and the anglers. The latter claim that the amount of netting which takes place in the vicinity of the mouth of any river is so great as to very much limit the chance of a sufficient number of salmon reaching the spawning beds to maintain the annual supply. On the other hand the commercial fishermen claim that they fish for a living and do not desire to see the fishery destroyed or even curtailed, and claim that they deserve the greater consideration in the matter of limiting fishing appliances.

However, the Federal Department of Fisheries, which regulates the fishery, widely recognizes the claims of both and makes laws, with a view to providing ample room for anglers who spend large sums of money wherever they locate to indulge their love of salmon fishing and for commercial net fishermen who operate in order to live, consistent with the necessity of preserving this wonderful natural resource for all time. The Department, after long experience and knowledge of the local conditions in every river and on each stretch of the coast where nets are set, has provided for long annual close seasons when no fishing at all is allowed, also for the closing of fishing each week end during the open season.

From the time the fish is born, throughout its life in the river and its subsequent roaming in the open sea until it returns to the river for spawning, it has to run the gauntlet of many enemies. The mortality is very heavy when the fish is in the very young stage, and even when it is mature and able to look after itself in the sea, it is preyed upon by seals, sharks and other big sea animals. Then man with his drift nets and fixed nets is ever on the alert for the biggest possible catches his gear



Playing a hooked salmon on an Eastern Canadian River.

Angling for salmon on a river in Eastern Canada. The fight is over and the victim is being landed in a scoopnet.



is capable of taking. Anglers also are usually looking for big catches and are rarely satisfied with the number of fish they take in the course of the season. But perhaps the worst enemy of all is the poacher who at times operates far up the rivers and takes the fish when near or on the spawning beds.

Then again the fish are prevented from reaching their spawning and reproducing beds by mill dams of various kinds and natural barriers in the rivers. Where mill dams exist the Minister of Fisheries has authority, which he constantly exercises, to compel the owners to build to the satisfaction of his Department fishways or fish passes through such dams to allow the fish free passage to the upper reaches of the rivers. Sometimes high natural falls occur which salmon cannot possibly negotiate. Then skilful engineering work is needed to provide a suitable way past the obstruction. A notable example of obstruction of this nature is the sheer drop of forty feet which the Magaguadavic River takes close to the Town of St. George, New Brunswick. The Engineers of the Department have been successful in this exceptional case in building a fishway up which salmon can now find their way with ease. The height of the falls and the difficult nature of the approach may

be realized by a glance at the accompanying photographs which show the fishway built of concrete along the face of the rock wall to the right.

In addition to preventing overfishing by close seasons and seeing that salmon are allowed freedom to reach their natural spawning grounds, there are maintained by the Department a number of hatcheries on the Atlantic Coast where the mature fish are stripped of eggs and milt which, after fertilization, are hatched artificially. These are reared to a stage when they can forage for themselves. They are then distributed on the natural spawning grounds of rivers where sufficient food may exist, with a view to replacing some of the enormous losses of eggs and young fish that occur under natural hatching conditions. In one of the accompanying photographs will be seen a hatchery, the buildings connected with it and the ponds in which the fish are reared to a safe size.

With all these preventive regulations and artificial assistance in reproduction, it is hoped that notwithstanding periodical ups and downs in the quantity taken by net-men and by anglers, this lordly fish will continue indefinitely to seek our rivers and to give fascinating sport to anglers and considerable recompense to commercial fishermen on the whole length of Canada's Atlantic Coast.



A hatchery and buildings with extensive rearing ponds in the foreground.



Obstruction in the river at St. George, New Brunswick. The fishway is seen at the right.

A close-up of the concrete fishway showing entrance at lower right to lead salmon past the 40-foot falls.





An enlarged view of rearing ponds at the hatchery shown on page 189



One of the largest pieces of stone money on Yap, twelve feet in diameter. This stone was quarried in Palau.

HIDDEN ISLAND

by WILLARD PRICE

WE were waiting for the head-hunters to come to church.

For Palau is an island of contradiction. It is barbaric and civilized. It is one of the most beautiful islands of the South Seas and one of the least known. The Pacific islands are becoming a stamping ground for tourists, but Palau, one of the spots best worth seeing, has remained aloof. The truth is that the Japanese government, which controls it, does not welcome white visitors. No ships are allowed in Micronesian waters except those of Japan. Yet here I was . . . on an outlying island of the Palau group, entertaining natives with the first white face (if one exposed to four months of equatorial sun could be called white) they had seen in twenty-four years. With one exception — the face of the German missionary who accompanied me.

"I don't know which sin is worse," said the missionary, "head-hunting or unpunctuality."

An hour late already. The missionary, in moving about the village that afternoon, had announced to all and sundry that service would be at seven. The clock struck eight. Still the missionary made no move to go from the hilltop hut where we waited to the thatch church among the palms on the shore below. Of whose unpunctuality was he speaking?

"Then why don't we go?" I asked.

"Oh, I am all ready to go. But I don't hear the bell."

"Bell! Do they have to call you to church?"

Somehow this appeared to go backwards.

The missionary laughed. "It must be confusing," he said. "But it's a system we have here. It's a contest. We see which can outwait the other, the missionary or the congregation. I announce service for seven. But I don't go to the church at seven. What's the use — I would find it empty. So I have a man there who will signal me by ringing the bell when the people begin to come. Of course, even then, I don't go. I wait until he rings the bell the second time, which is supposed to mean that all the people are assembled. But still I don't go for my man is in league

with the elders and rings the second bell when there are still only a few gathered. After the third or fourth bell, I may think about going."

The first bell rang at 8.15. The second at 9. The third at 9.30. We went down to the church. It was empty.

The congregation had won, palms down. What folly for a German even to think of trying to compete with a Kanaka in delay!

After uncounted bells the people began to drift in. Through the velvet darkness they came, each carrying a torch made of strips of the "fruit leaf" which lies close to the nuts on the coconut tree. The strips are bound together to form a long slender bundle, and fired at one end. It is not held erect, but horizontally, the arm hanging at the side. The swing of the arm as one walks helps to keep it going.

It is a rule that he who goes abroad at night must carry a torch. It serves as a sign of honest intentions. Without torches, people move too quietly on their bare feet and are too dark in color to be visible. You feel as if surrounded by ghosts. You can see nothing, yet hear faint rustlings and breathings.

Upon arriving at the church, each beat out the fire of his torch on the ground.

The benches filled. At ten the service got under way. There was a savage edge not only in the features of some of the parishioners but in the way they cut stridently into the songs. Once started they had no desire to quit. Ngiwal being a village where evening entertainments are unknown, this was cinema, vaudeville, concert and wake all in one. Even the babies were present, and in full cry. The missionary's words got rapt attention, despite competition. When he was hoarse, the service ended formally, but continued informally, with bursts of wild song from various groups. . . . Christian words set to native tunes, some of which had known a bloody or obscene past.

Then torches were reluctantly lit for home-going. The king invited us to come to his house the next day. The king was in a shirt but no trousers because the night was warm. He was a bloodthirsty-looking wretch but we were given to understand



On islands where there are no streams, the only drinking water is the rain that trickles down the trunk of a tree and is diverted into a jar (Palau).

that he had repented of his record of two hundred and eighty heads and was now a staunch pillar of the church.

"Ungil dutau!" (Nightingale) he said when we arrived the next morning. The Palau nightingale has the sense to sleep at night but sings cheerily in the morning, hence the morning greeting means, "May you be as happy as the nightingale."

On the shelf were a few heads. He apologized for not having more, but the inhabitants of this island are zealous collectors of these trophies. He said that in a week or so he might have a few more. No, no, not he — he wouldn't do such a thing — but a friend of his . . .

Palau head-hunting is now severely restricted of course. Something like game laws have been applied to it. The custom is repellent to the Japanese, not merely because it is barbaric and disorderly . . . but because it seems to be quite without honor. There is nothing of the samurai spirit about it. The man sent out by his tribe to get a head of the enemy tribe is expected to go about it like a sneak-thief. Far from openly challenging anyone to battle, he lies in wait among the bushes beside the trail and springs out behind a fisherman plodding under a load of nets, or a woman carrying home taro, or a child chasing a butterfly. Upon his return he receives the same praise whether the head is that of man, woman or child.

"What difference does it make?" says the king. "A child eats as much as a man. There are too many people and too little food on these islands. We make war so that we may eat. If we can stop a young mouth from a life-time of eating, it is even better than stopping an old one."

But the desperation of hunger has always paused short of cannibalism. There is no record that human flesh has ever been eaten on Palau.

The king took us to the near-by All-Men-House. Before it was a circular stone platform called "ailiuth." At its center was an "olgal", a stone with a hollow in its upper surface forming a stone cup.

When a warrior returns from a successful foray, the head he has brought is placed in this cup. Then the tribesmen gather on the ailiuth and dance about the head, clapping their hands. Toddy makes the occasion merrier.

To-day even this much publicity is dangerous. But in former days, the next

step was to organize a delegation which was sent on a tour of neighboring friendly villages. At each the proud trophy, perhaps the tousled head of some youngster, was placed in the local olgal and became the center of festivities lasting two or three days. The village fed the delegation well, paid it some money for its service in reducing Palau's food problem, and sent it on its way to the next village.

"But I suppose you were especially proud when you got the head of a chief," I said.

"No, no! "The king was shocked. "That was forbidden. We would kill a chief — but not cut off his head. That would be a disgrace."

Like depriving a general of his sword.

So apparently there was some honor even among cutthroats.

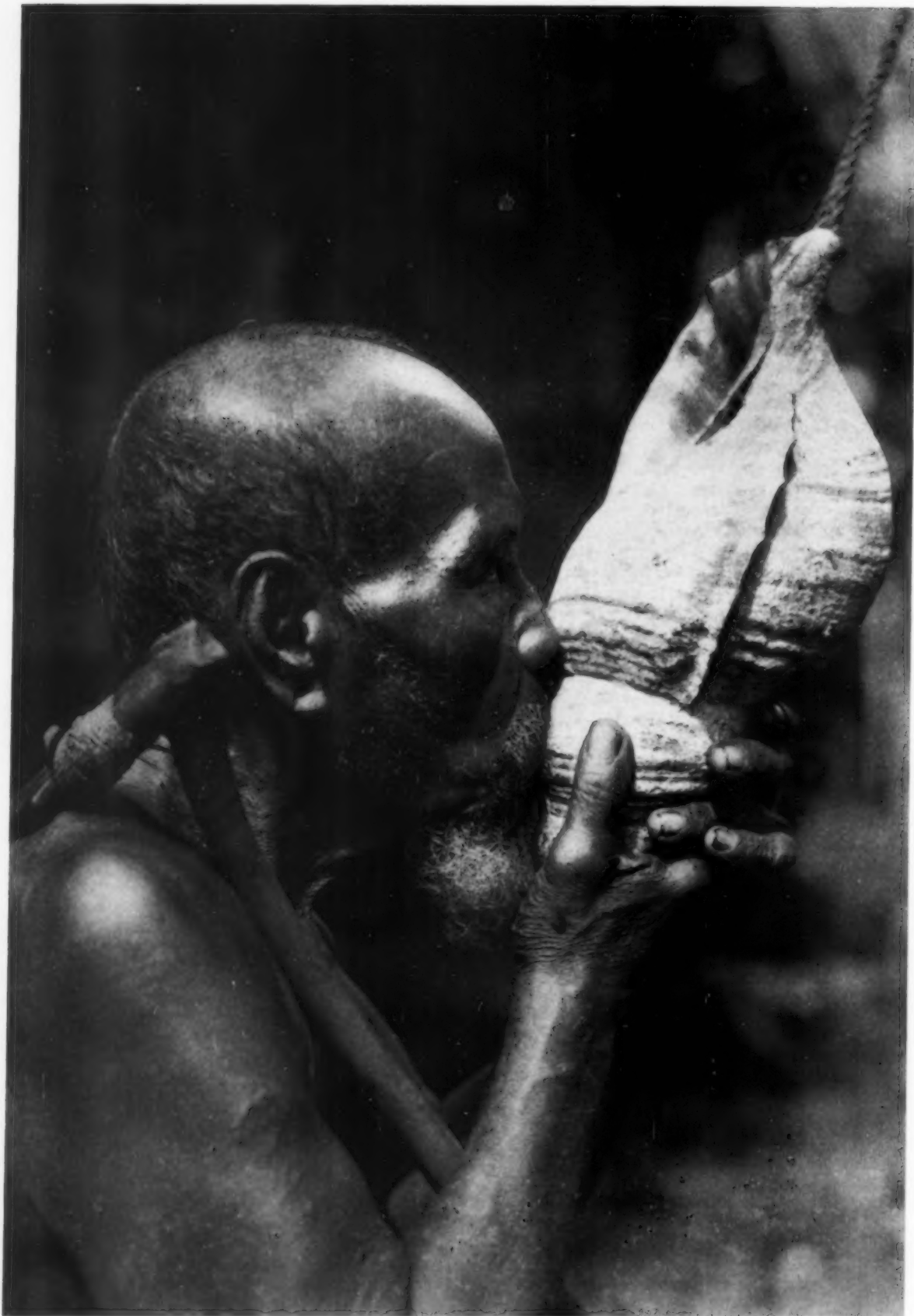
He took us through an overgrown path (asking us not to speak of it to the Japanese policeman who would fine them for not keeping it cleaned out) to the grave of the giant of Ngiwal. The story of the giant Ngireumelas is well known among the natives of the Palau islands and probably has some basis in truth. It seems that about one hundred years ago enemy villages which resented the adeptness of Ngiwal experts in picking off heads united to punish this mischievous village. They killed all the males and decreed that there should never be any more. Thenceforth every man-child born was to be killed.

But one woman who bore a strong son tattooed him as a girl and dressed him as a girl. He grew to great size and single-handed subdued the enemies of Ngiwal. Now he sleeps in a grave so long that when the five-foot king lay down upon it touching his toes to the footstone there was a gap of four feet between his head and the headstone.

Next to the giant, the tallest dead of Palau are the English. Many are buried here. Their tombstones are gray with age, for the English preceded the Japanese, the Germans and even the Spanish. Their blood runs in the veins of many a dusky islander and their speech lingers in his mouth.

I liked to talk with old William Gibbon. Eighty years old, he was a living history of Palau. He had been here during English, Spanish, German and Japanese times. And his father before him.

His father lay in a grave in the front yard of William's thatch home. William



The old chief blows on the shell known to science as the Tritonium and to mythology as the Triton's Horn, to call the men to the council House.

could usually be found sitting on the flat gravestone translating English into the Palau tongue so that the few natives who could read their own language might learn something of the outside world. Perhaps his work was a reflection of his own longing to know something of the outside world, the world from which his father had come. For William himself had never been beyond these islands.

"My father was an Englishman," he said proudly. Then, becoming more explicit, "He was the son of an Englishman and a colored lady. He was born in Saint Kitt's . . . but he was brought up in England. He became a sailor on a man-of-war. Later he shipped on a whaler."

"How did he come to live on Palau?"

"Well, you see, my father didn't get along with the captain. So when this whaling ship came to Palau, the captain said to the king, 'You'd better keep this man on shore.' The ship went off without him. Every day for many years my father went to the mountain-top and scanned the sea for vessels. None came. So he made his home here, married a Palau princess, had children, ten of them. Then he couldn't leave."

Of the ten children of the marooned mulatto, William is the only survivor. He has added to the mixture of nationalities and races by marrying the half-caste daughter of a Palau woman and an American buccaneer-trader, Captain Clark. Captain Clark had his own schooner and his business was salvaging wrecks. He one day walked about on the bottom of Hongkong harbor inspecting a vessel; a davit, swinging in the current, struck and broke the window of his diving helmet, and his Palau daughter never saw him again.

William has six children. He has tried hard to teach them his beloved English but they are content with the Palau language and a smattering of Japanese. He still insists that they are English children. And he sits upon the grave as if clinging to the past—the far past, even before his English grandfather married a colored lady of Saint Kitts.

A death chant rises from a group of men seated on the stones before a house near by. A chief has died. They will bury him in the front yard. It is the custom.

"The Japanese want us to take our dead away," says William. "We want them near. We cannot understand it that

the Japanese are willing to burn their dead, to lose them. You have seen the death fires?"

Yes, I had seen the solitary spot on a hill overlooking the sea where the Japanese cremate their dead. It is a weird sight an hour before dawn when the burnings take place. Under an iron roof is a great furnace. Fuel goes into its lower door, the boxed body on an iron tray goes into the upper door and rests upon an iron grate. About the furnace are tables where relatives and friends may drink . . . in typical Japanese fashion glossing over their misery with merriment. When the burning is over, the tray is removed. It contains ashes and bones. For some reason the ashes alone are respected—the bones join a promiscuous heap on the hillside. The ashes are presented before a simple stone shrine and prayers are offered.

At a safe distance is an open-air grill upon which the bodies of "blood-sick" natives, victims of plague, are burned. The motive in this case being sanitation rather than veneration.

Now and then the local king would come to sit on the gravestone with William. He was a roly-poly old monarch not unlike the legendary King Cole. His royal robes were a bit scant. But he never appeared among his subjects without his shirt. Trousers he scorned as being unsuited to a tropical climate; and without a doubt he was right. He liked to sit on the gravestone because it was cool against his skin.

"This is good stone," he said, patting the great slab of calcite. "The Yap people even use it as money!" He laughed heartily over the absurd customs of the Yaps. "Have you seen real money?" he asked, suddenly serious.

I suppose it is every man's ambition to see, before he dies, some real money.

"No," I said, "I have never seen real money."

"I'll show you some."

He waddled away to his thatch palace, calling lustily meanwhile to the queen.

"The queen keeps the money," explained William. "It belongs to the whole village, this great money. Of course every family has some small money of its own. I'll show you mine."

He went into the house and brought out a box. It contained small objects carefully wrapped in absorbent cotton.

"This is a kluk," he said, disclosing a white and green stone about the size and



In the two-mile main street of Palau the rare thatch hut looks out of place among Japanese stores, telegraph poles and radio towers; and the kimono and foreign dress have banished the lava-lava.

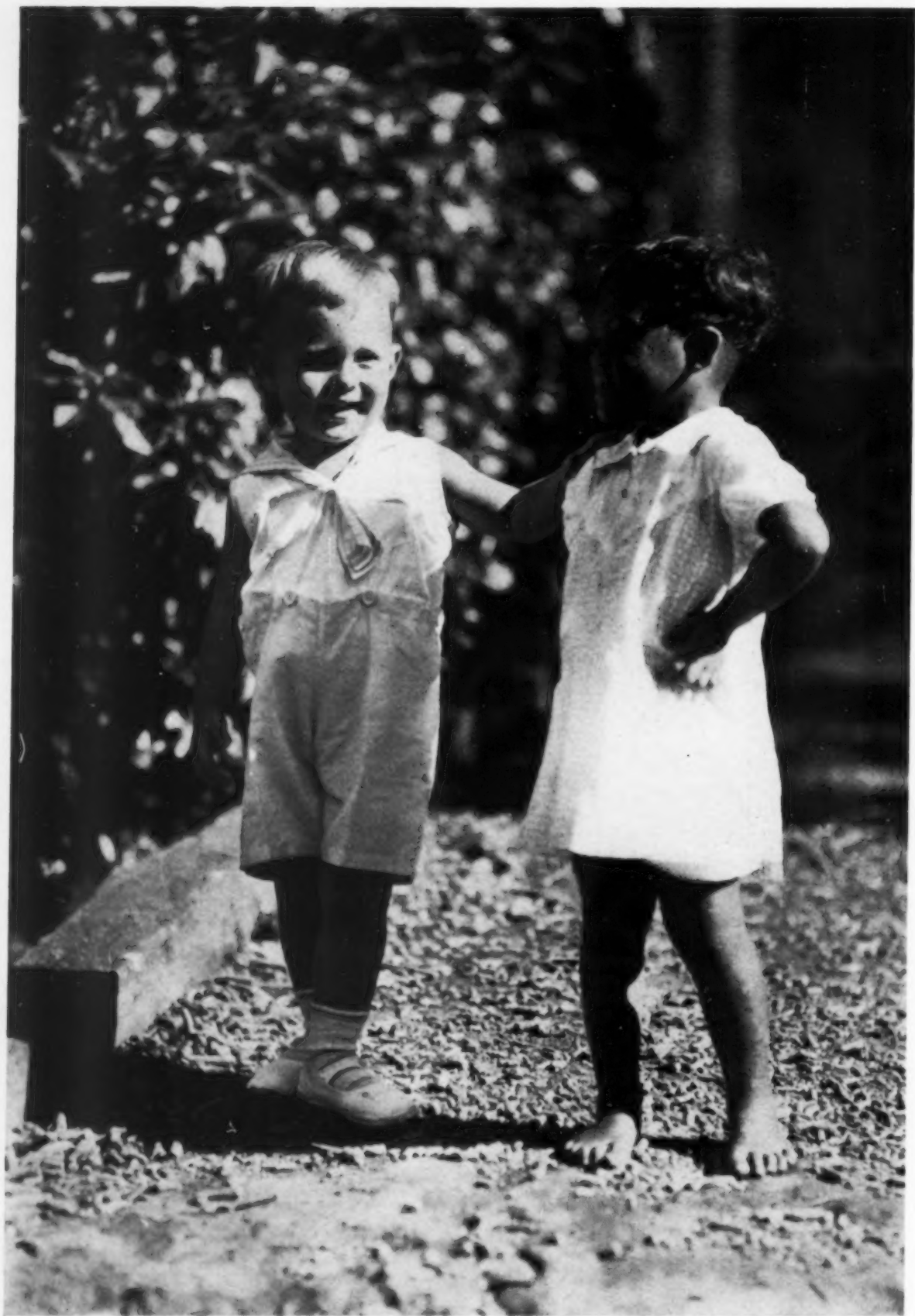
Valuable and greatly prized Palau money.

A native king, dressed for war-dance.



*Native boathouse, Palau. Image of a
god of the sea.*





The native race has ceased increasing and is barely holding its own. The little native girl is four years old, the German boy, two,—yet they are the same size.

shape of a large bead. It was pierced by a hole so that it could be worn on a string around the neck. "It is worth one hundred yen in Japanese money." A hundred yen at present exchange would be about equal to twenty-eight dollars. "The kluk is the unit of exchange of this currency, like the English pound or the American dollar. This small piece is a klesuk, or half a kluk. These glass pieces are still less valuable — they are worn by the little girls."

The king arrived with a strongbox. He brushed away William's slight possessions with a gesture and spread out on the gravestone a magnificent display of large, vari-colored stones.

Most of the pieces seemed to be a sort of porcelain, worn as if by sand and wave.

"What is this material?" I asked.

"We do not ask that," said the king. "It was given to us by the god of Palau. (And the king is a deacon in Herr Siemer's church!)"

"That guess is as good as any," agreed William. "Professor Kramer from Germany and Professor Hasebe from Tohoku Imperial University have been unable to identify this material. It doesn't seem to have originated in this part of the world. Some think it may be meteoric."

The king picked up a beautiful green specimen. "This is worth seven kluk. Its name is Chalbuchop."

"Every piece in Palau has a given name," said William, "like a man."

"This yellow one is Nglalemesall. It is worth fourteen kluk. And this one is Nglalemiaur. It is five hundred years old." He displayed a beautiful round red piece the size of a golf ball.

"This is the price of a canoe. This, the price of a house. This, the price of a village. And these," turning reverently to the greatest pieces, "are beyond price."

"We buy and sell with the small pieces," William said. "But the great pieces are not used for trading. They change hands only when captured in wars between villages. Even if we were faced with starvation we would not spend them. We would rather die. You are now looking at the finest money of this kind in the world. It is used only in Palau, and this village of Korrer is conqueror of all other villages and the richest in Palau."

Every piece has a hole so that it may be strung and worn on state occasions by the queen and other noble ladies —

never by the men. But while it is displayed by the women it belongs to the men.

But there is another currency, exclusively for women. It consists of small trays of tortoise shell. They become immediately worthless in the hands of a man, but a woman may use them in trade with other women, or dowry her daughter with them when she marries.

"Now, these pieces are worthless," the king said of two large yellow stones. To a novice, they looked as good as the rest. "We keep them only as curiosities, to show the difference between real money and false. An Englishman named Emery thought he would get rich — so he brought in a lot of pieces like Palau pieces. He said they were from Arabia. He tried to sell them for copra and beche de mer. But the people wouldn't take them. They could see that they were nothing like the money from god."

He replaced the gems and carried the strongbox back to the custody of the queen.

"The women appear to be very important in Palau," I commented to William.

"A man without a wife is nothing in Palau," said William. "He is helpless. Taro is our chief food — and that is in the hands of women. It is against custom for a man to work in the taro patch — he would rather go hungry. A man who is not married is nobody. He is like a beggar. He must eat any scraps given to him by his relatives."

It was almost as if he were describing the unhappy lot of the widow in India instead of that supposedly free and favored individual, the bachelor.

"I am a poor man," said William, "because I have many sons and few daughters. Daughters mean riches in Palau. The women of Palau are stronger than the men — yes, in body as well as in mind. They have always worked, while the men have spent their time at the abai (club house) with the slave women. It has become the custom in Palau for the women to support the men. A man with brothers and sons has nothing but expense. A man with many daughters and sisters and a wife or two is a rich man. So every man gets married as soon as he can . . . and then prays for daughters. He is disappointed if a boy comes. There have been cases of infanticide here, but it was boy-babies, not girl-babies, who were put out of the way."



Spearing fish in the lagoon.

The man's life is not entirely parasitic, for he must do the building and the fishing. And the latter is not without peril. One day an automobile came up the street (for this was in the Japanese settlement on the main island where they have such things as automobiles and streets) its running boards and fenders loaded with excited men talking animatedly with the passengers within. News was shouted ahead and people flocked to see, bringing the car a to halt. Inside were four famished Palau men who had just been rescued after twenty days adrift in an open boat. Three of them were insane.

The motor of the fishing boat had failed and the trade wind had carried the craft to sea. There was no food or water in the boat. The two Christians prayed in their way and the two non-Christians addressed the spirits of their fathers. Whose prayers did it was a difference of opinion, but something brought a bunch of coconuts alongside, and on another day two sharks followed the boat. They were speared and the raw flesh served as food for three days. Three of the men drank sea water and became "sick in the head." A small sail improvised from gee-strings accomplished little. Ships sailed by. The speck of a boat, although it contained a whole world of torture, was too small to be seen. After twenty eternal days, a Nanyo Kohatsu (South Sea Development) steamer picked them up.

"The history of Palau has been one long fight with the sea," William said. "Not only the Palau men but the Englishmen know that to their grief. You know that too, don't you Elizabeth?" He spoke to a woman who, except for her dark color, would have passed as a New England schoolteacher. She lives in William's house. "Elizabeth Lewis," said William, "is English too. Her father, Captain Lewis, was taken by the sea. Elizabeth has married twice — two Englishmen — the sea took them both. Her father left her fine houses and possessions. The sea rose in a typhoon and swept everything away. Now she has nothing. But," he added, "as if this made up for having nothing, she is clever. She can speak English, German, Japanese, Spanish, Chamorro, Yap, Lamotrek, Uleai, Mokok, Truk and Palau. You can't beat an Englishwoman!"

In one of the most distant islands of the Palau group we found neighbors chanting

over the corpse of a little wizened-up old lady, who, they said, "should have stayed alive to talk English to you. The old king, noseless because framboesia had left only a great hole where his nose had been, told us of her husband.

"He was an Englishman. He wrote books in German. He became a native chief, put away clothes, wore a lava lava, carried a basket, and a chisel on his shoulder, chewed betel nut, spoke our language well."

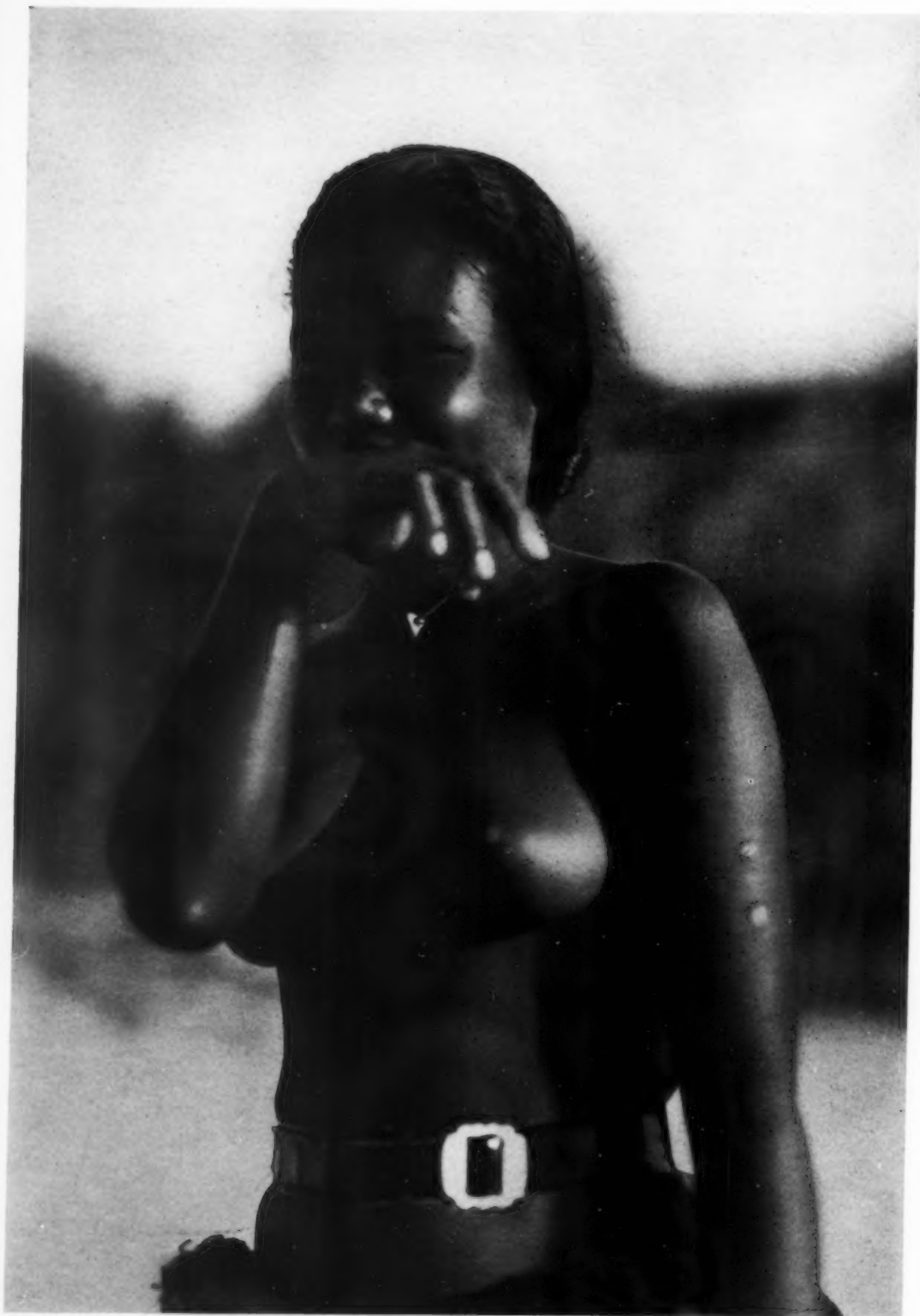
"Was his name Kubary? I asked, thinking I recognized the great erratic ethnologist in this description. Johann Stanislaus Kubary was a Pole, but because of his background and training he passed readily as an Englishman.

"That's it. Kubary. A great man. We liked him. We gave him good women for his wives — this one here, one in Korrer and two in Ponape. But one of the Ponape women went with another man. When Mr. Kubary found it out, he killed himself. Too bad — to lose such a fine man for a woman."

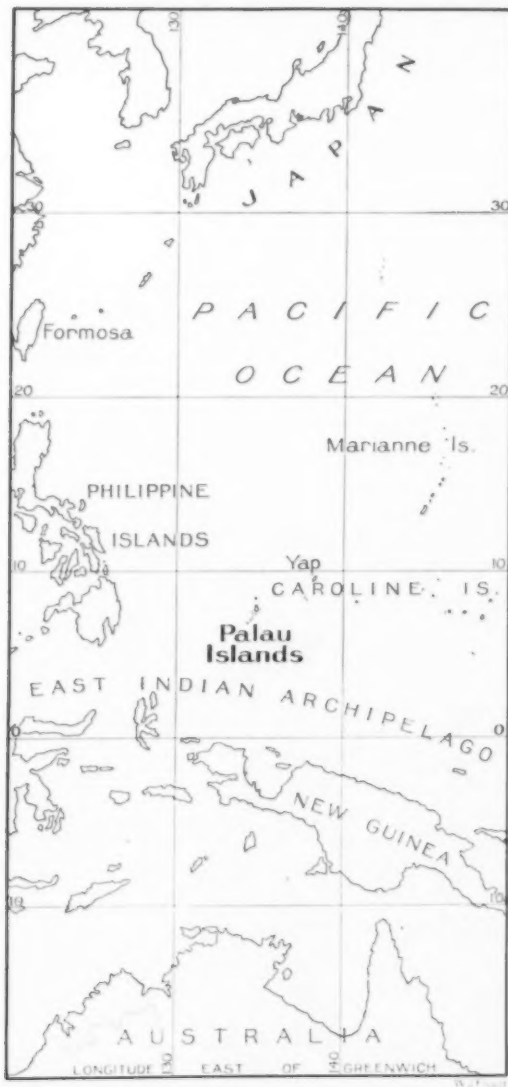
The missionary said, "In the most unexpected corners of these islands I find traces of the foreigners of long ago. Many old women have said to me, 'My husband was an Englishman'."

On the way back from this distant island of Peliliu to Palau's centre of civilization at Korrer, our sailing canoe stopped at the hilly little island of Aulong. To anyone who has revelled in the tales of the early explorers of the Pacific, this is one of the most romantic spots in the South Seas. And another reminder of the English. For it was here that Captain Wilson's East India Company ship, the *Antelope*, was stove in during the stormy night of August 9, 1783. The shipwrecked crew, fearing for their heads, were relieved to find at dawn that the island was uninhabited. They set about building a new schooner from the timbers of the old one. Native fishing canoes spotted them, and the king of Korrer paid them a visit, accompanied by his warriors. Whether or not he came with belligerent intent he departed meekly enough, for he was profoundly impressed by the salute of many guns fired in his honor.

He soon came back to beg the help of some of the crew, with their fire-sticks, in subduing his enemies. So, for the next three months, until the new schooner sailed away on November 12th, the exiled



The piece of Palau money at her throat is very valuable, said to be worth a thousand yen (about \$300.)



Englishmen amused themselves by fighting the wars of King Abba Thulle. In return, he permitted them to hoist the British flag over Palau.

It did not wave there long, for England paid little attention to this remote patch of earth . . . and later regretted the neglect of what oriental strategists now call "the key to the western Pacific." Spain picked it up and held it until the Spanish-American War disillusioned her of the idea of building an oriental empire. Germany then bought it along with the rest of Micronesia. But all this time Japan had been wistfully watching these islands, and during the first days of the World War she saw her opportunity. She sailed south and took Micronesia, put up some "Keep out" signs, and set out to make the islands produce, as they now do, more every year than the total paid by Germany to Spain for the lot.

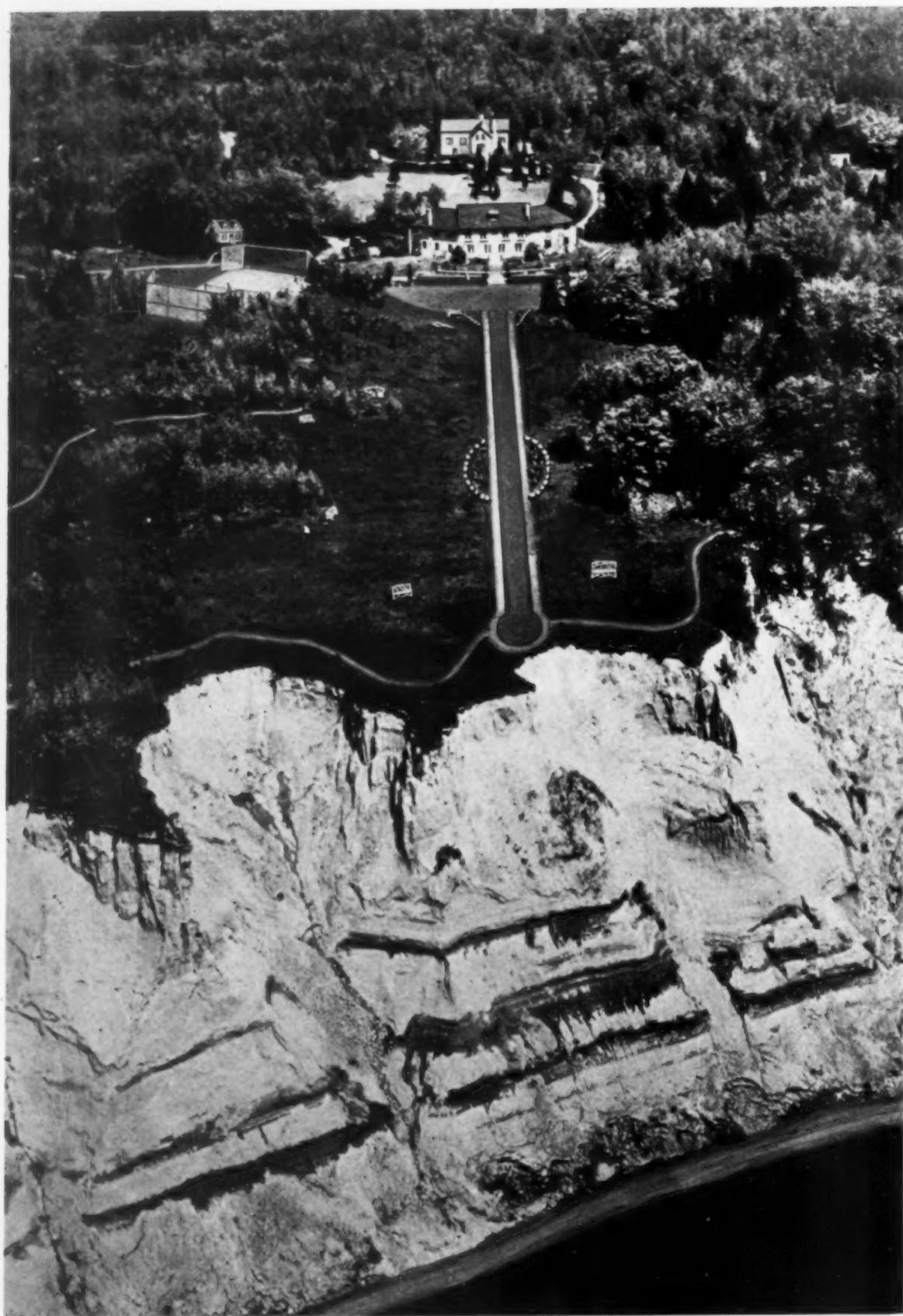
Palau especially is of profound significance to Japan. It is Japan's farthest south, the nearest Japanese territory to the Philippines, Singapore, the Dutch East Indies and Australia. Besides its spear-point importance from a naval standpoint, it is economically valuable. The natural result is that the Japanese are flooding into this great reef-enclosed group of islands, and the natives are step by step moving back into the farther islands. They must eventually either step off into the sea or, more probably, amalgamate racially with the Japanese. In one way or another, they must disappear. Place the energetic, rapidly multiplying Japanese side by side with the languid, dying native race, and the outcome is clear. The brown man's day is drawing to a close in Palau.



God's bath house—a little hut on stilts in the village of Ngaredelolok, Island of Pelitiu, Palau, where the father of all gods was supposed to come every night for a bath in the wooden dish of water always provided for him.



The island of Koror is very fertile and beautiful. In the foreground is part of the plantation of the government experimental farm (Palau)



The Scarborough Bluffs at the Guild of all Arts.

LOITERING ALONG LAKE ONTARIO

by HOWE MARTYN

IN *Death of a Hero*, Richard Aldington writes: "Exploration is experiencing what you have not experienced before", and adds that the joys of real exploratory travel can be had on a fifteen mile walk. Similarly the road between Toronto and Kingston, part of familiar King's Highway No. 2 which is the "front road" for nearly a quarter of Canada's people, is a scenic tour and can be an exploration ground if one travels at leisure discovering what is ancient about it and reflecting on what is curious.

The Kingston road is indeed ancient, for Canada, having been established by Governor Simcoe who came here in 1792. Who else but a soldier would have demanded a 165 mile road through the cedar swamp of the Lake Ontario shoreline of those days, parallel to the natural means of communication the Lake itself afforded? However the contract was let in 1798 to Asa Danforth an American, commemorated in one of present Toronto's main streets. In three years he completed his work from Kingston through Toronto and west to the village of Ancaster. His road made only one divergence of consequence from the present highway — crossing the then relatively populous Prince Edward County peninsula along the Bay of Quinte shore, with a ferry or ice-crossing by Lake-on-the-Mountain.

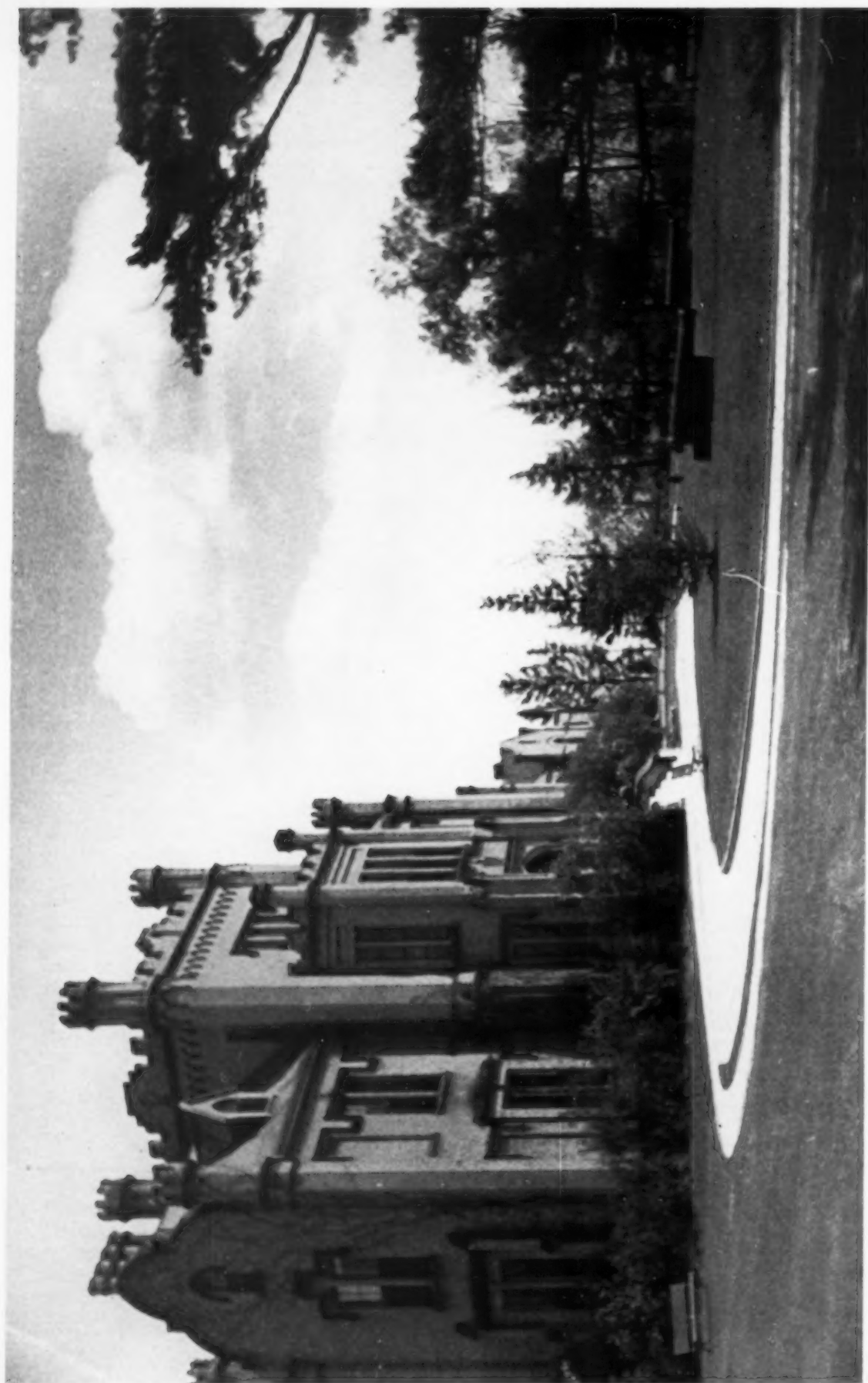
The Lake Ontario shore is perhaps most internationally noted for a geological oddity, the Scarborough Bluffs. These are pleasantly accessible where a sign on the highway, about 12 miles out from Toronto, directs to the Guild of All Arts. From the edge of the lawn in front of the Guild's house there is a sudden drop of 200 feet to the Lake. Bank swallows flutter far below the edge of the cliff, the numerous holes they have made in the face for nests indicating that it consists not of rock or even chalk but of clay. The formation is said to be a glacial deposit.

The Guild of All Arts itself is of recent advent, although its patches of woodlands are claimed to be the only untouched relics of the original lakeshore forests. The grounds and buildings here are the joint property and domicile of a group of people who are seeking to develop both a cooperative community and a planned 'garden' suburb. Handicrafts such as weaving and iron-working are practised and a guest-house is maintained.

At the Rouge Hills is another suburban subdivision. The side-roads leading into this development are still undeveloped enough to exemplify the summer attractions of the old Ontario roads. From the top of a sharp rise can be seen, on the right, pasture lands free of buildings and marked by rail or 'snake' fences which with their shrubbery of wild raspberry have the breadth and free-sketched quality of hedges. On the left, smooth broad-curving fields and a wooded skyline. Ahead the thin white strand of dusty road, wide-bordered by grassy ditches and further kept in line by trees at irregular intervals, directing the gaze over the rising and falling contours of the ground to the Lake.

Returning to the highway, the traveller descends from the Rouge Hills down a still sufficiently steep incline to the Rouge River. The engineers of the modern road have made a deep cut into the hill and built a high-level bridge over the river, so it can be seen what an obstacle the Rouge must have been to earlier travellers. There was a station here for stage-coaches to change horses and a toll-gate. Not all the horses at the station served to get one famous wagon over the Rouge hazards, however, when it stuck in the mud here in 1846 and held up the circus, the first to come into Ontario, to which it belonged. The wagon was finally moved by the pushing of the circus elephants.

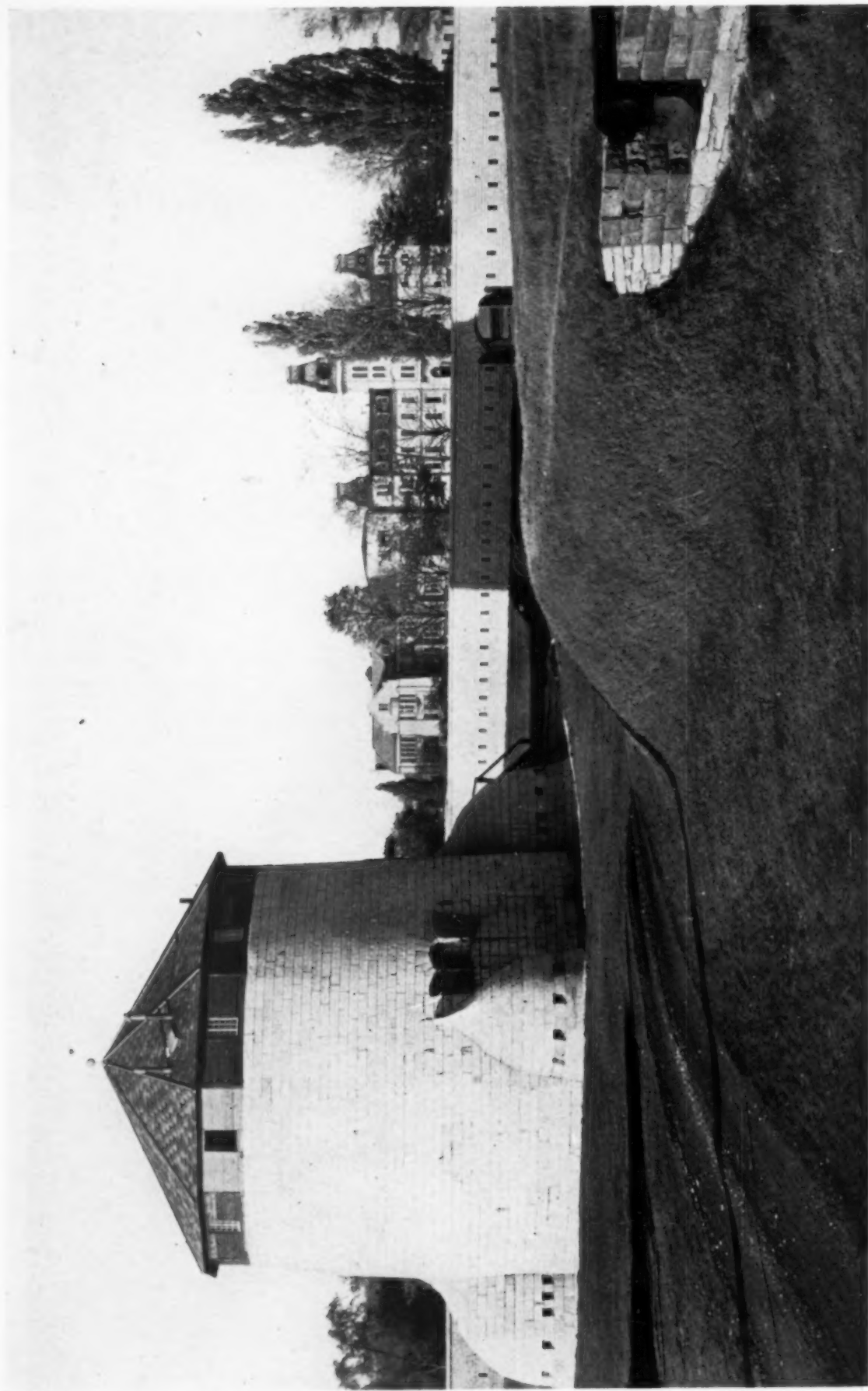
The next bridge to be met going east is over Duffin's Creek, at the edge of the



Ontario Ladies' College, Whitby.



Queens University, Kingston.



Royal Military College, Kingston. Fort Frederick in foreground.

village of Pickering, which is still known locally as "the Creek". This stream took its name from an Irishman settler who had a cabin above the bank on the north side of the highway and lived happily on potatoes he grew, game he shot, and salmon he fished out of this very creek which then abounded with them.

The most distinguished building in Pickering is a portico's house at the east end on the north side, formerly pertaining to Pickering College. This was a Quaker boy's boarding school, opened near Picton, Ontario in 1848, and removed to this village in 1877. But the school has been moved again. A man from Pickering, Peter Matthews, was hanged in 1838 for his part in that rebellion for political rights which was led by William Lyon Mackenzie, grandfather of the present Canadian Prime Minister.

At the eastern end of the next town, Whitby, is another college building, this formerly a private residence now used by the Ontario Ladies' College. The building, a curious imitation of Gothic architecture, was constructed by the district Sherriff with thoughts of entertaining Royalty at the time when King Edward VII as Prince of Wales toured Canada. However the loyal Sheriff ran into debt and was not allowed to enjoy his castle.

In an earlier day Whitby was a centre for an important south to north traffic. Settlers came by ship to its harbour, on their way to the Lake Scugog district which by their sad mistake was thought very promising for farming. The road from Whitby was paved in 1846, to serve this traffic — paved with planks, as cheaper than macadam.

Oshawa is the Indian name for the crossing of a stream, given in 1842 to a place then known as Skea's Corners. But the importance and growth of the place date from the manufacture of motor-cars, and still derive from that.

The quiet town of Bowmanville was formerly an entrepot like Whitby, and relatively much more important than now. The pretentiously named Ontario Bank was founded here in 1857. Money had been made in the town from trade in grain, particularly barley shipped to American brewers, by the Port Darlington Harbour

Company which operated the port and by a milling business. Burk's Mill, the first, was built in 1825 on the same spot where a mill now stands, near the highway on the north side. The present mill, still running, is a rebuilding of the original, done in 1850. This was the handicraft of the father of Professor Squair who is known to generations of Ontario students for his French Grammar.

East of Bowmanville, at a jog in the road shortly before Newcastle, there is a landmark of former days and another short-lived social period in Ontario. It is a small cemetery, St. George's. This was originally connected with an Anglican church built at his own expense on his own estate, in 1837, by S.S. Wilmot, Esquire, who established himself here in the style of an English gentleman farmer.

Newcastle, now best known to outsiders for its model Community Hall commemorating the connection of the Massey family with this place where their farm implement business was founded, was formerly an adjunct to Bond Head Harbour, the old name of its lake frontage. Barges were routed from here all the way to Montreal. Squared pine timber, dragged down the 'mast road' to the Lake here, was sent still farther, to serve the sailing vessels of the British Navy. When the railroad first came through connecting Montreal and Toronto, the place retained importance for a short while as a wood depot for the early wood-burning locomotives.

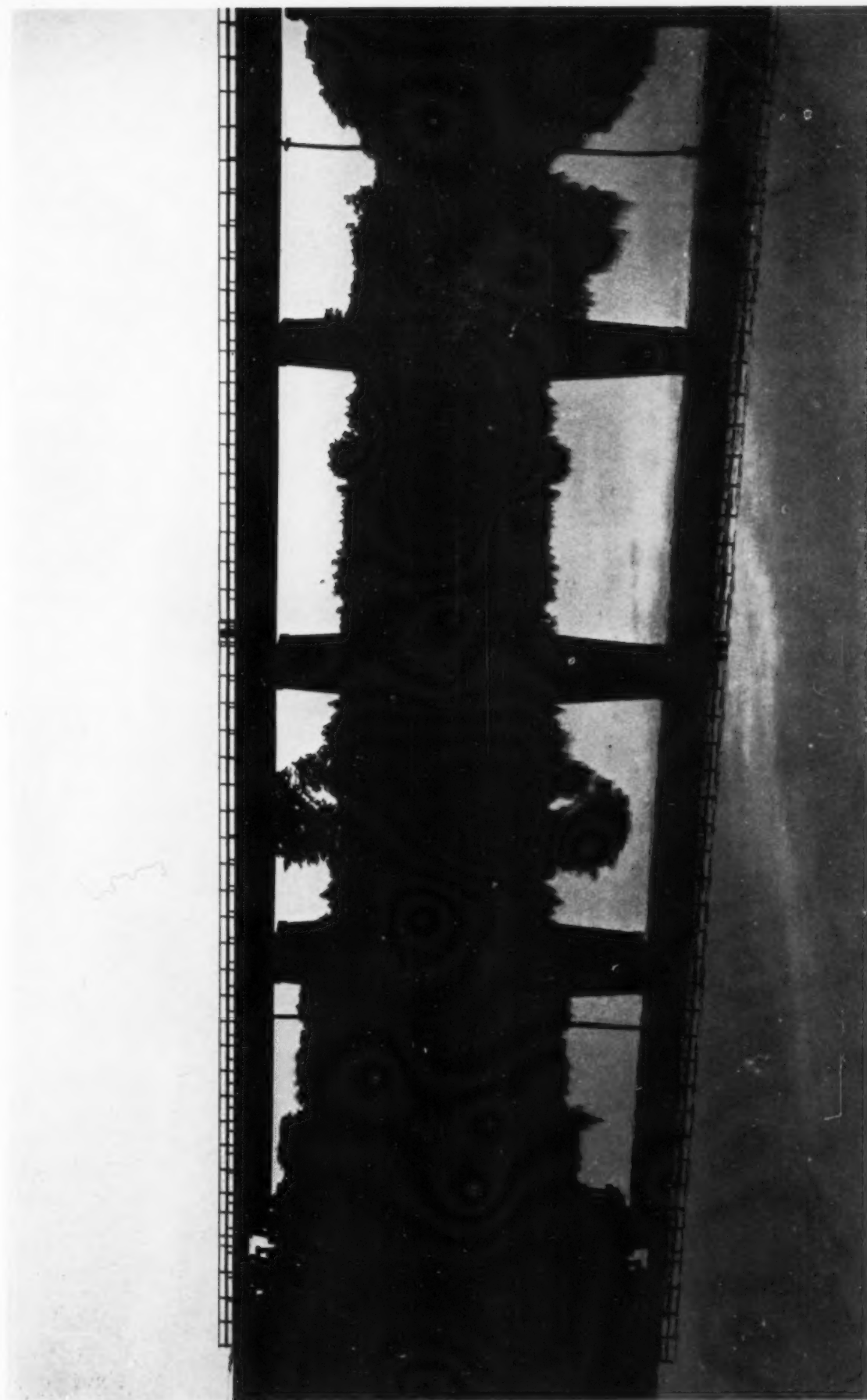
On the highway a short distance farther east is the hamlet, Newtonville. This was included in a block of land, an original Crown grant to Sophia, daughter of Aeneas Shaw, a Captain in the Queen's Rangers and friend of Governor Simcoe, who emigrated to Canada in 1792 and secured large tracts in this district for himself and family. Daughter Sophia was engaged to marry Sir Isaac Brock who was killed at Queenston Heights in the War of 1812.

Port Hope, the next town, has modestly withdrawn its former welcoming sign announcing "The Prettiest Town in Canada." It has also changed its name, although long since, the original one being actually Toronto. For the visitor who wishes to cultivate artistic appreciation for the



Looking west across the mouth of the river at Boumannville. Contrast this peaceful scene with those of the days when this was a busy harbour in the Great Lakes barley trade.

C. J. Scott



Old Mill at Bowmanville reflecting Canadian Pacific Railway bridge—at Sunset

C. J. Scott



Scarborough Bluffs

bucolic scenery presented by this tour, there is the Summer School of the Ontario College of Art to be found in a converted mill at the north of the town. For others, there are miles of finest sand beach, free and uncrowded.

The Toronto-Montreal two parallel railway lines, each double-track, have far outgrown their wood-burning infancy, so the two level crossings between Port Hope and Cobourg should be traversed with great caution.

Cobourg itself is a town made beautiful by the number of summer estates within its limits, and also wearing an air of possessing a peace which it does not wish disturbed. A good deal of exuberance has gone out of the place, individually in Beatrice Lillie, who was born here, and corporately in Victoria College. Cobourg is identified still with the college by the old building. But the college was here because a man was here, Egerton Ryerson, great pioneer minister of religion and and educationist. Ryerson, an adherent of the Methodism which had been brought to Canada after the American Revolution by the United Empire Loyalists, had been first a school-teacher, taking up this work at the surprising age of fifteen, and later one of the "saddle-bag" ministers preaching the Cobourg circuit which then extended from Bowmanville to Brighton, east of Cobourg. When he was twenty-six years old he helped to found the *Christian Guardian*, a reformist newspaper, and became its first editor. Later he went to England to solicit funds for a college and to seek a Royal Charter. The college was opened as Upper Canada Academy in 1836, with Ryerson its first President, and it became Victoria College with its Royal Charter in 1841.

A public square, a pleasance of trees and lawn, in the centre of the town, is a feature possessed by Colborne and by too few other towns in Canada. This is a monument to the foresight and public spirit of James Keeler, who emigrated from Vermont and became the first settler here in 1789. Later he brought in forty other settlers, built flour and saw mills, gave free sites for churches, and deeded the land for this square to his little town. The town is named however to commemo-

rate a British soldier, Sir John Colborne, who fought at Corunna and Waterloo. But Colborne also participated in the constructive work more appreciated in peacefully growing Canada. He was the founder of Upper Canada College. An enthusiastic supporter of the Welland Canal project, he put up money to become a shareholder himself and persuaded the Duke of Wellington to take shares.

The first white man ever to view Lake Ontario saw it from a point crossed by King's Highway No. 2, at Trenton. This was Champlain, and the date 1615. Champlain was participating in an expedition of the Huron Indians to make war on the Iroquois. The route from the Huron country to the Iroquois homes in New York State crossed Rice Lake and then followed the Trent River down to the Bay of Quinte on Lake Ontario.

A turn to the south at Trenton from the present highway keeps the traveller on the original road, taking him across the neck of land connecting the Prince Edward County peninsula with the mainland. There is still a village here called Carrying Place from the portage that had to be made by water travellers coming up the Bay of Quinte from the east and wanting to continue along the lake on the west. The bay on the west is Weller's Bay, from Asa Weller, who after his arrival in 1802 kept a yoke of oxen and a low wagon here for hauling across the land the flat-bottomed 'bateaux' used for travel by the settlers.

William Weller, son of Asa, introduced a more modern service for travellers, operating from 1830 a stage line, which left Toronto (still called York) at 4 a.m. and with good fortune made the Carrying Place before midnight the same day. A steamer took on passengers from the Bay of Quinte side as far as Prescott. Passengers on the stage line rode in springless lumber wagons with a canvas canopy over them.

The peaceful, contented and secure atmosphere that goes with good earth well-adjusted to man's needs by long cultivation is to be found in Prince Edward County freshened by the cool closely-surrounding water. This is farming country and has been so exclusively for two centuries. Free of the commercial traffic along



Lighthouse and ruins of pier are all that show that Boumanville was once a busy port in the barley trade.

C. J. Scott

the upper highway, it gives a feeling of the garden quality of England rather than the still pioneering new world.

Prince Edward County is connected at the eastern end with the mainland by a ferry, as when the King's Highway was first established. The service is intermittent—the boat may be doing an errand for a neighbouring farmer down the bay. But to fill the time there is a drive up a steep path from the Glenora landing to the Lake-on-the-Mountain. This is a small round lake which seems to defy water's famous propensity by being at the top of a hill, and having no visible inlet.

On the mainland again, on the historic road before this is reunited with the present highway, there are two villages of interest. One is Adolphustown, and here a party of United Empire Loyalists landed in 1784, naming their new home in respect for a son of George III. The land they settled had been purchased the previous year from the Mississaguas Indians by a Captain Crawford, who wrote in his report: "The consideration demanded by the Chiefs for the lands granted is that all the families belonging to them shall be clothed and that those that have not fuseses shall receive new ones, some powder and ball for their winter hunting, as much coarse red cloth as will make about a dozen coats and as many laced hats."

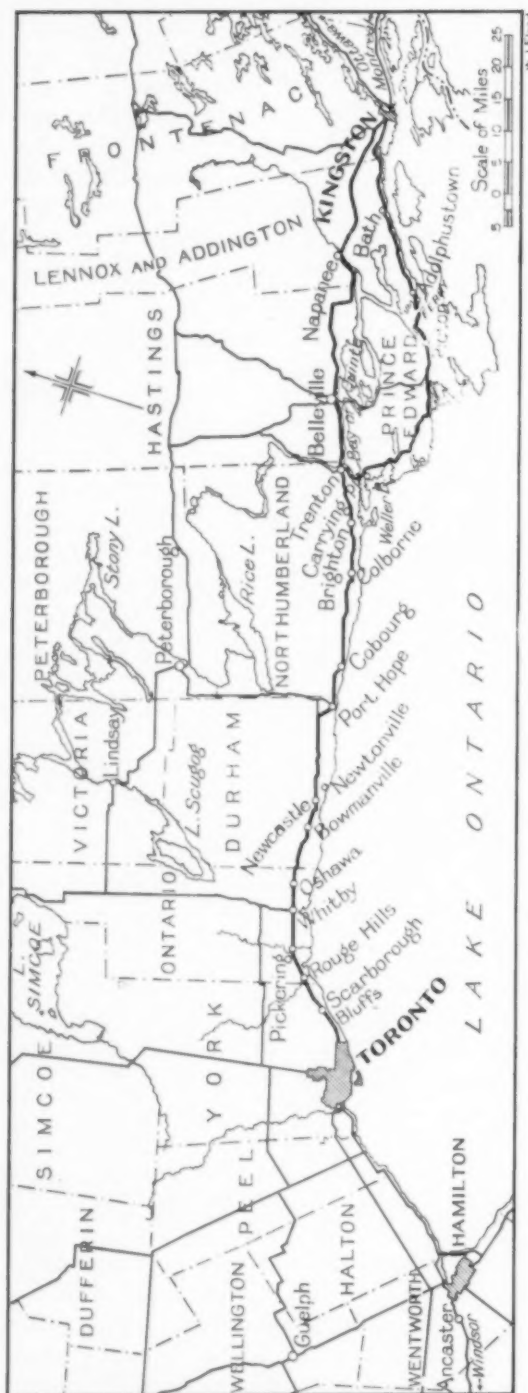
The second village is Bath. It was founded as Ernestown, after another son of George III. Here was built the first steamer ever launched on Lake Ontario—the Frontenac, 1816. In the same year the first stage-coach line in the province began to run between Bath and Kingston. The highest Court in the province was held here from 1819 to 1827.

The modern city of Belleville on the new highway north of the Bay of Quinte is missed by travellers traversing the Prince Edward County peninsula along the original route. Belleville was named for Lady Arabella Gore, wife of the Governor who in 1816 spent a night here, attended a ball in his honour at which the Lady

Arabella is said to have danced with every man present, and was persuaded to order a post-office for the place. Before that it was Meyer's Creek, after Captain Meyers, United Empire Loyalist, who bought land here and erected mills, and later built himself the first brick house in the province, and eventually left to his thirty-nine grandchildren a farm each or its equivalent in money.

Champlain was the first white man to pass Kingston way, returning with the Hurons from that war expedition against the Iroquois which had first brought him to the Lake. With the name of Fort Frontenac the place was first inhabited by the French, a fort being built in 1673 after the famous Council meeting between Governor Frontenac and the Iroquois here. The original site is now occupied by the Tete du Pont Barracks in Kingston, and remnants of the walls exist beneath the present wall surfacing. La Salle the explorer was the first commandant of the fort. La Salle himself was granted a seignury by King Louis the Magnificent at Cataraqui, very close, and it was he who built Frontenac's fort in stone. He also built ships for sailing on Lake Ontario in the fur trade.

When Canada was captured by the British, Kingston received its present name, and shortly thereafter received an influx of United Empire Loyalist settlers. One of the first English settlers was John Stuart, D.D., first Anglican clergyman in Canada. In 1785 he wrote: "Kingston increases fast; there are already about fifty houses built in it, some of them very elegant." In 1786 Dr. Stuart opened a boy's school here. He also was one of the first and few that ever kept slaves in Canada. Almost a contemporary with him was another teaching clergyman, John Strachan, who was brought out to Kingston in 1799 by the Hon. Richard Carthewright as tutor for his sons, and who later became the famous Bishop Strachan who fought democratic government in the province. The educational influence which has been dominant in Kingston since the



founding of Queen's University in 1841 has been strongly democratic and liberal. The University's fine buildings show to great advantage the native Kingston stone which has been giving its character to the town since at least 1795, when it was remarked by the French traveller La Rochefoucault as valuable for "being easily cut and growing hard when exposed to the air, without cracking in the frost."

Governor Simcoe, arriving in this part of Canada in 1792, first set up his government in Kingston, but the town did not remain the capital. It regained this position for the short period 1841 to 1844, and in that time Lord Sydenham, a Governor very sympathetic and helpful to our colonial ancestors, lived here, and is buried beneath St. George's Church. The building used by the embryonic Parliament of this time is now the central part of the Kingston General Hospital.

During the war of 1812 Kingston was a centre of great strategic importance, and the military foresight of Governor Simcoe in building his highway was proved.

The growth of Kingston was scarcely interrupted by the war. It developed so that in 1825 it was reckoned the largest town in the province. In 1810 the first newspaper published in the province, the Kingston Gazette, had been founded by Stephen Miles, twenty years old. The first daily newspaper in the whole of Canada also was the British Whig, started here in 1832. In 1819 the first bank in the province, the Bank of Kingston, was started.

The influence of energetic early Kingston was a factor in the development of the places we have passed through on the Highway it sent out to communicate with Toronto. It exercised a unifying stimulating influence again, when it contributed Sir John A. Macdonald, first Dominion Prime Minister, to the public life of Canada.

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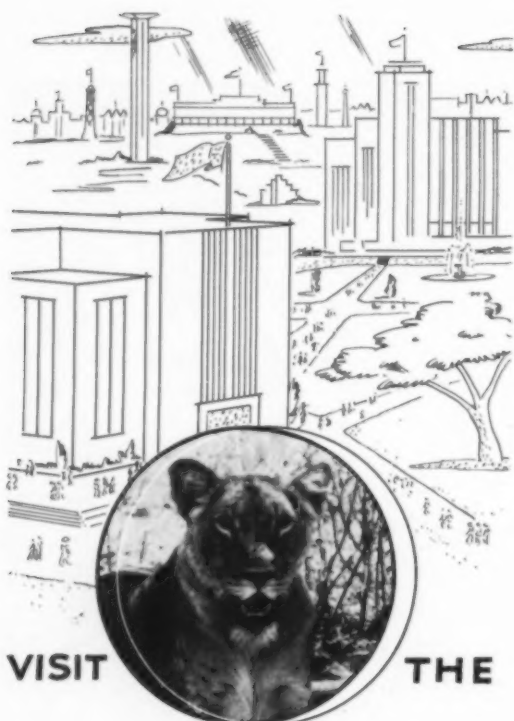
But when she does relax, either on the set, or in her fisherman's cottage in Cornwall, where she and Sonnie Hale lead much of their private lives, you'll find her enjoying her favorite cigarette, W. D. & H. O. Wills Gold Flake.

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EDITOR'S NOTE BOOK

The International Union of Geodesy and Geophysics is meeting this year in Edinburgh, (September 17-26). One of its constituent associations, that of Hydrology, has a new subcommission named the *International Commission of Snow*, which then meets for the first time under the presidency of Prof. J. E. Church, of Nevada University. The International Commission of Snow proposes to meet at Edinburgh September 14-16 in advance of the meetings of the Union. The chairman of the British group of the International Commission of Snow is Mr. Gerald Seligman.

OUR CONTRIBUTORS

J. J. Cowie holds the position of Director of Fisheries in the Department of Fisheries and deals mainly with practical matters connected with the exploitation and development of the fisheries.

He is also a member of the Biological Board of Canada, which is an independent body of scientists and of men actually engaged in the fishing industry, and which is responsible, under the Minister of Fisheries, for the conduct and control of fisheries research within the Dominion.

He is, therefore, qualified to write authoritatively on such a subject as the Atlantic Salmon of Canada.

Howe Martyn graduated from the University of Toronto and Oxford with 'First's'; won the English essay award in the first Willingdon Arts Competition; work published in *Queen's Quarterly*, *Dalhousie Review* and other publications. Is a resident of Toronto.

Willard Price, is well known to readers of such periodicals *National Geographic*, *Harpers Magazine*, *Natural History*, *Asia*, *Fortnightly*, *Spectator*, *National Review*, *Contemporary Review*, *Life and Letters*, *Daily Telegraph* and *Daily Herald*.

Canadian born, Mr. Price contributes in this issue an illuminating article *Hidden Island* dealing with "one of the most beautiful islands of the South Seas and one of the least known", the island of Palau and its "barbaric and civilized" inhabitants.

Ralph Purser for many years associated with the Topographical and Air Survey Bureau of the Department of the Interior at Ottawa, a Dominion Land Surveyor of

many years experience is therefore well qualified to write authoritatively on "Canada's Geographical Survey" appearing in this issue.

Material expansion throughout the Province of Quebec is anticipated by The Canadian Geographical Society, which has secured the services of J. FERGUS GRANT, who has been associated with the Montreal Gazette for the last eleven years. As marine and aviation correspondent for that newspaper, he has had many opportunities of travelling extensively throughout the world. Two successive winters were spent in visiting Brazil, Argentina, Uruguay and Chile, followed by the Union of South Africa, Southern and Northern Rhodesia, Tanganyika and Kenya, securing material for articles on commercial and other subjects.

On the return of H.M. Airship R-100 from Montreal to Cardington, England, in 1930, Mr. Fergus Grant represented both The Gazette and the New York Times. The following year he accompanied the first consignment of air mail to be flown from Montreal to Calgary. Then, as press correspondent for the Canadian Pacific Railway and staff correspondent for his own paper, this journalist encircled the world aboard the S.S. Empress of Britain on her initial circuit of the globe.

Three months during the summer of 1934 and four months last year were spent in the Carribean, where he secured editorial material and solicited advertising for two series of twenty-four special sections of a trade and travel promotional character pertaining to the British West Indies, Bermuda, the Bahamas and British Guiana, published by The Gazette during the successive winter months. Mr. Fergus Grant is not unfamiliar with Western Canada, having visited the Prairie Provinces and British Columbia early in 1935 to obtain material and to solicit advertising for a Western Canada Travel supplement.

Following the recent "rejuvenation" of the Canadian Geographical Journal, he has become associated with the Society, whose interests will be represented by him throughout the Province of Quebec, with headquarters in Montreal (HARBOUR 3047 or FRONTENAC 1722).

Reorganization of the Society's representation throughout Canada and Europe is now under advisement. Important

announcements will be made in September issue following surveys completed this month in England and Canada's western provinces.

By special request the letter of His Excellency the Governor General published in the May issue of the Journal is hereby reproduced.

"As Honorary Patron of the Canadian Geographical Society, I would venture to urge most strongly the claims of the Canadian Geographical Journal. A similar journal in the United States has a world-wide circulation, and something of the same kind has now been started in England with excellent prospects. I may be biased by my keen interest in exploration, but I cannot but think that a successful geographical journal would be of inestimable value to Canada. It would inform Canadians about the richness and wonder of their own land for Canadian exploration is not yet finished. If well done, it might have a large forcible circulation both in Britain and in the United States. It should be not only a means of introducing to the world the results of Canadian geographical research, but a popular magazine to attract the ordinary reader.

To make a Journal worthy of Canada two things are needed; a much larger membership of the Canadian Geographical Society, and a modest endowment fund to bring the Journal in size and quality to a standard worthy of its subject. I would appeal to my fellow Canadians to help in this most worthy cause".

(Signed) Tweedsmuir.

Members are requested to invite their friends to visit the Canadian Geographical Society booth at the Canadian National Exhibition, Second Floor of the West Annex, Coliseum Building. Society literature will be available to all those interested in the Society and its official publication, Canadian Geographical Journal.

Readers of the Journal will find in the September issue, a variety of interest in articles dealing with Nickel: Canadian Stamps: Modern Pioneering in Canada's Western Sub-Arctic: and Mayaland. Fall issues will include illuminating articles featuring Canadian Industry and backgrounds.

AMONGST THE NEW BOOKS

Refreshing to read in torrid summer days is GERALD SELIGMAN'S *Snow Structures and Ice Fields*, being an account of snow and ice forms met with in nature and a study of avalanches and snowcraft (Toronto: MacMillan, 1936, \$7.50). Mr. Seligman, a fellow of the Royal Meteorological Society, and member of many ski-clubs has given in this book the results of years upon years of arduous ice observation, recording and experiment, illustrated with nearly 400 photographs, microphotographs and diagrams. The preface states that it attempts to describe and explain the prime causes of snow phenomena to the practical man, and the author believes that none of his readers, after a study of its pages, can fail to become a better snowcraftsman, be he ski-runner, mountaineer or polar explorer. Mr. Seligman, in making researches in glaciological literature, found few works having any practical connection with snow and snowcraft, and though he modestly disclaims any attempt at a scientific monograph on ice, he hopes that his work will appeal to students of physics, crystallography, chemistry, meteorology and glaciology. Being neither a "practical man" nor a ski-runner need not deter anyone from keen enjoyment of this book. The classification of avalanches in Part 3 is particularly intriguing with its Dry Avalanches, Wet Avalanches, Mixed Avalanches, Wind-slab Avalanches, Avalanches in series, and so on. An appendix on Alpine weather is supplied by C. K. M. Douglas, of the Meteorological Office of the Air Ministry.

Mitla: Town of the Souls, by ELSIE CLEWS PARSONS, (Chicago University Press, 1936, \$4.00), is a vivid and human account of life in the Zapotec village of Mitla (Mexico) near the famous ruins. Dr. Parsons, an authority on Indian culture and folkways, gives especially interesting accounts of the Zapotec marriage and kinship rites, curing and divining, and the political organization. The book is illustrated with many fascinating original photographs.

The earth's magnetism, by S. CHAPMAN, F. R. S. (London: Methuen, 1936, 3/6). A brief and simple description of the main facts about the earth's magnetism and its changes. Its five main problems are indicated. The aim has been both to interest the general reader, and to help those on whose special work the earth's magnetism has some bearing — sailors, land and mine surveyors, aviators, meteorologists, physicists and astronomers.

That R. B. CUNNINGHAME GRAHAM should write the prefaces to two books by an Argentine schoolmaster, sufficiently indicates their calibre. The second of these books by AIME FELIX TSCHIFFLEY is entitled *Tschiffley's Ride: Ten Thousand Miles in the Saddle from Southern Cross to Pole Star*. (New York: Grosset, Toronto: McLeod, 1935, \$1.00). With his two sturdy horses Mancha (the stained one) and Gato (the cat), Tschiffley rode northwest from Buenos Aires, three times crossed the towering Andes, struggled through almost incredibly difficult country amid floods, jungle, quicksands, deserts, from Argentine to Peru, beyond Ecuador to Colombia, up through Panama and Mexico and thus to Washington. "It is a book for all lovers of horses, for all lovers of travel and for all lovers of adventure."

Londoner's New York, by E. STEWART FAY, (London: Methuen, 1936, 8/6). Mr. Fay's book of last year, *Why Piccadilly*, with its delightful research in London place-names, ensures a warm welcome for this picture of New York by a Londoner born. To his appraisal of New York, however, he brings an intimate knowledge of American affairs and a five years' residence in Montreal to temper his English bias, if such existed. He deals not only with the fantastic present aspect and fascinating past of the world's second largest city, but also with its social structure. Unusual photographs and endpaper maps add to the attractiveness of the book.

To the American Geographical Society we are indebted for a number of excellent studies of South American countries, the latest being *Chile: Land and Society*, by GEORGE MCCUTCHEON MCBRIDE, (New York: American Geographical Society, 1936, \$4.00). Dr. McBride's classic study of the Land systems of Mexico, published in 1923, by the Society is said to be surpassed by this volume. A long residence in Chile has given Dr. McBride intimate knowledge of conditions there. This scholarly book gives "a vivid account of typical rural properties of various kinds, of the idyllic charm of the landowner's life on the haciendas, in contrast with the hard conditions under which most of the tenants and small farmers labour, of new farms hewn out of the dense forests of the south centre, of great sheep ranches in the far south, of Indian agrarian communities in the desert north,

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where curious pre-Spanish customs of land tenure have persisted, and of the historical and geographical background of the various systems of land tenure". The question of agrarian reform, undoubtedly the most vital issue in Chile to-day, is analyzed and constructive suggestions made towards its solution. The volume contains four hundred and thirty pages and is illustrated with thirty-seven halftones, fourteen maps and seventeen drawings and graphs.

A certain Scottish housebuilder, long resident in Canada, planned some day to revisit his "ain folk". Morton's, *In Search of Scotland*, so bewitched him that he set out forthwith and spent a blissful summer in the land of the heather. It is dangerous to get into the grip of books about Scotland for they are many and have an irresistible charm. This is especially true of Iain C. Lees' *Byways from Tyne to Tay* (Stirling: Eneas MacKay, 1936, 5/net). The author knows his SCOTT AND BURNS and the writers of those haunting songs and ballads familiar to us all, and many a stirring verse springs to his mind as he leads us on this leisurely journey from the Cheviots to the Grampians. It is a book for those who love unfrequented ways; indeed the author's main purpose is to guide the pilgrim away from the main streams of traffic, to show him the hill to climb, the bypath to explore, the burn to follow, the ruin to visit. Border byways are taken from Jedburgh to Moffat, Duns to Biggar—we go from Moorfoots and the Lammermoors to the Pentlands, from the fringes of Edinburgh to the Kingdom of Fife. Tales are told of the Burns' Country and the Southland to Dumfries, of Border reivers, Highland caterans and Galloway raiders. The few but beautiful illustrations help us to picture many glorious scenes conjured up by Mr. Lee's vivid descriptions. Those who are so fortunate as to follow in his footsteps and foregather at the Youth Hostels on the way will find this little book a delightful guide.

One of the best books ever written on the Eskimos is the estimate placed by a well-known Canadian authority on KAJ BIRKET-SMITH'S *The Eskimos*, (London, Methuen, 1936, 15/). This admirable translation by W. E. Calvert describes in rich detail the Eskimo tribes, who inhabit the Arctic shores from Bering Sea to the east coast of Greenland. Akin in spirit and training to his great predecessors, Nansen and Rasmussen, Dr. Birket-Smith brings to this work the most intimate knowledge of Eskimo life, warmed with devotion to this lovable people and enriched by a philosophic outlook, of good augury for the future of the Eskimo. The concluding chapter, "Eskimos and Whites", should be read and pondered by every one concerned for the just treatment of these northern natives.

The book contains two hundred and fifty pages, an endmap showing the distribution of the Eskimos, and is illustrated by numerous excellent photographs. Appendices give I. A Summary of the seventeen Eskimo tribal groups, II. Rules of pronunciation and III. a selected bibliography of nearly thirteen pages. The foreword, by Dr. Diamond Jenness of the National Museum of Canada, is a remarkable tribute to Dr. Birket-Smith.

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TWO AREAS IN YUKON BEING INVESTIGATED

Canada's largest placer gold field, the Ogilvie area in Yukon, is being mapped and investigated this year by a Dominion Department of Mines field party headed by H. S. Bostock. The 4,500 square mile area covers most of the Klondike placer gold deposits and many important deposits outside that field. Work in the area, which was commenced last year involves a systematic study of all problems affecting the economic development of the deposits. Important among these is the reason why the placers do not extend beyond Dominion creek, where, so far as is known, the same rock formations continue southeast from the Klondike. Endeavours will be made also to determine the sources of the gold; the nature and extent of its distribution; and whether there are areas other than those already known that are worthy of careful prospecting. The work covers a key placer area, and promises to yield considerable valuable information toward the solution of the various problems.

During the course of the season Dr. Bostock will also make a survey of mineral development in Yukon.

A second party headed by J. R. Johnston is engaged in a detailed study of the lode gold occurrences of the Freegold Mountain area. There has been very little production of lode gold in Yukon and developments in the area are being followed with interest. The work is expected to afford information as to the modes of occurrences of the

deposits, which will be a valuable aid in future development. An estimate is being made also of the mineral possibilities of the area.

MAP OF LAKE OF THE WOODS REGION

Seven years ago the Topographical and Air Survey Bureau, Department of the Interior, issued the Kenora sheet of the National Topographic Map series on the scale of four miles to one inch. The steady demand for this map has necessitated a reprint which has just been issued.

This map includes an area of about 6,000 square miles including the Northwest Angle portion of the International Boundary which places a portion of Minnesota to the northwest of Lake of the Woods.

The most notable topographic feature of the sheet is Lake of the Woods, a beautiful body of clear water more than 2,000 square miles in extent, in which there are thousands of wooded islands. This magnificent lake lying on the old water route between the St. Lawrence river system and the western plains is rich in history and romance associated with the early days of Canada's development.

Immediately to the northwest of Lake of the Woods lies Shoal lake, a large body of water which is of importance as the source from which the city of Winnipeg derives its water supply. This lake drains into Lake of the Woods at Ash rapids where the interesting phenomenon of a reversing rapid may be observed, the direction of the flow depending on the respective water levels of the two lakes.



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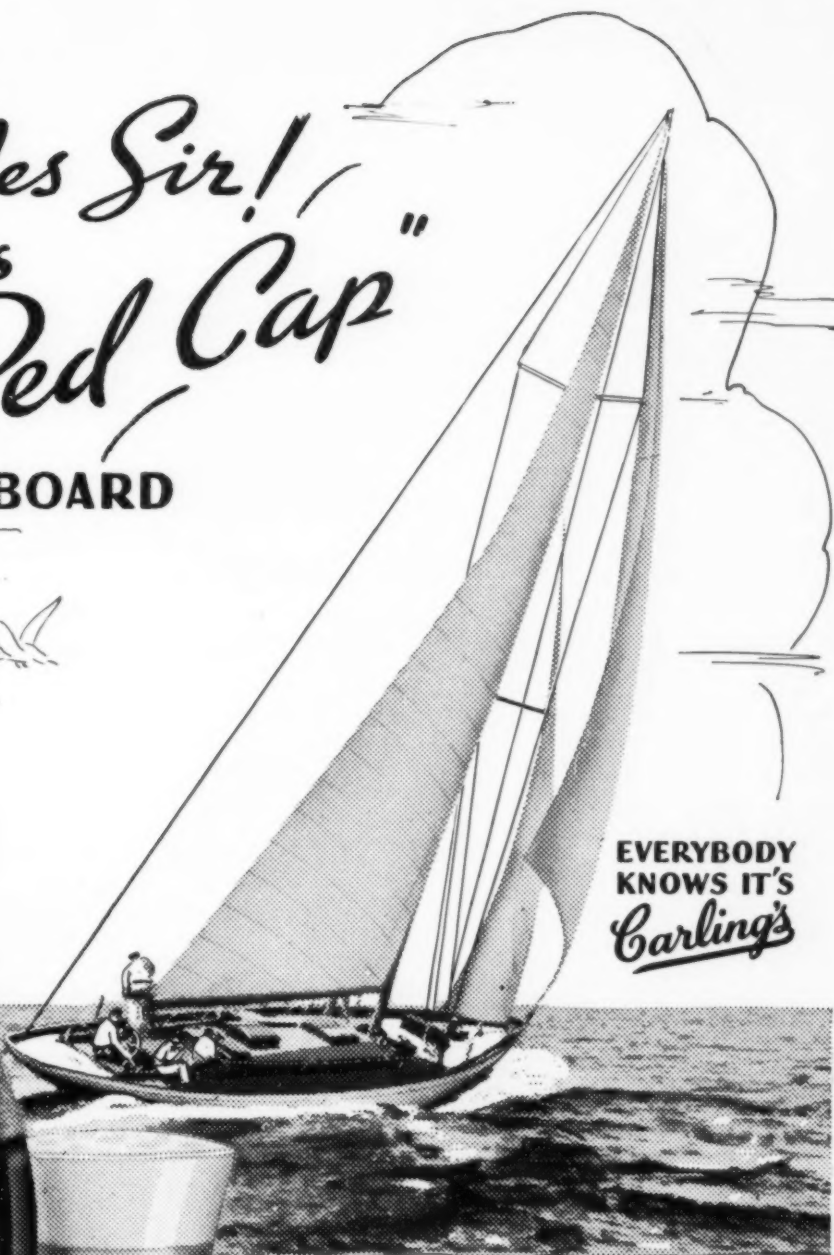
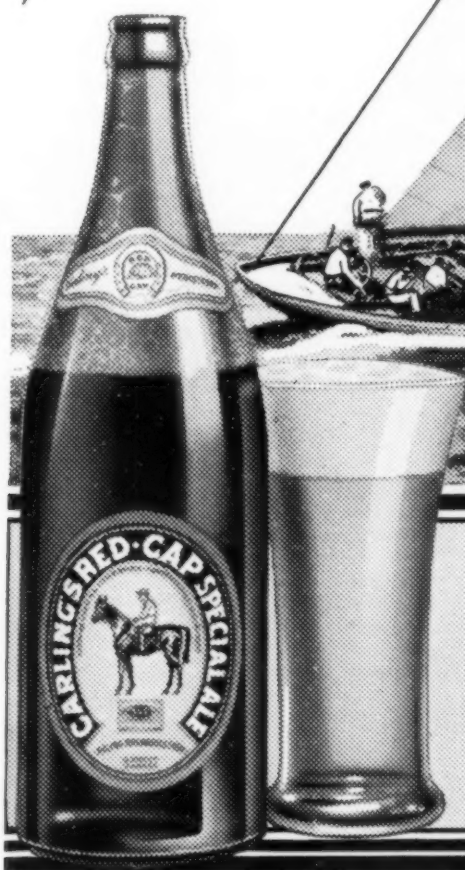
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JASPER NATIONAL PARK MAP

Announcement is made by the Topographical and Air Survey Bureau of the Department of the Interior at Ottawa that a new map of the southern part of Jasper National Park, Alberta, has just been issued. Together with one covering the northern section, issued in 1934, the two map sheets show the physical features of part of the 4,200 square miles of territory within the park area, the most extensive of Canada's national playgrounds. Further surveys are being made to enable the whole park to be mapped.

Indicated clearly on the new map are the great glaciers moving down from the Columbia ice-field, striking reminders of the enormous ice sheet which at one time covered the whole region, and which geologists tell us was more than 2,000 feet thick over the site of the town of Jasper. The Athabaska glacier is the source of the historic river of that name which flows through Jasper Park and beyond to the Peace, Slave, and Mackenzie rivers, a distance of over 2,000 miles before reaching the Arctic ocean. Within the park area, the wide valley of the Athabaska is an excellent route of travel and early explorers ascended it to Athabaska pass, which was then the favourite crossing of the Rockies. The Yellowhead pass on the Divide is lower in elevation and for that reason was selected for the railway crossing. Entering the park from the west, the railway follows the Miette valley as far as the town of Jasper, then continues along the Athabaska river.

AIRCRAFT DE LUXE

Purchase of a Lockheed Electra ten-passenger plane by Canadian Airways Limited was announced in July by G. A. Thompson, General Manager. This plane will be the fastest twin-engine craft in Canada, and has been acquired specifically to provide an air mail and passenger service comparable to those now in operation in the United States, with which Canadian Airways services are linked. Northwest Airlines have a fleet of twelve Electras.

The aircraft will be placed on the Vancouver-Seattle service so that a Winnipeg-Vancouver passenger travelling over Northwest Airlines via Fargo and Seattle, will be assured of one standard of comfort and accommodation throughout the entire journey. The cabin is luxuriously appointed down to the last detail,—ashtrays and hat clips, individual reading lamps and call buttons, high backed reclining chairs, richly upholstered. Heating of cabin is manually controlled. The walls are insulated so that with the motors situated well away from the passenger compartment, speaking in low tones to one's fellow passenger is quite possible. Vibration is noticeable by its absence, and everything is so smooth-running that letters may be written in comfort.

The high speed of the Electra puts it in a class far in advance of any planes now used on Canadian commercial services. It can cruise at 185 m.p.h. at 5,000 feet altitude using only 300 h.p. from each of its Pratt & Whitney Wasp Junior engines. The maximum speed at the same level is 210 m.p.h. and with its wing flaps down it lands at 64 m.p.h.

De-icers will be fitted. This is the first plane in Canada to be fitted with this accessory.

Accommodation is provided for ten passengers excluding the two pilots, and over 600 pounds of mail, baggage and express.